

## INDEX OF AUTHORS' NAMES.

### A B S T R A C T S. 1887.

And also to Transactions, 1887 (marked TRANS.) ; and to such papers as appeared in Abstract of Proceedings but not in Transactions (marked PROC.).

#### A.

- Adam, P., diphenyl-derivatives, 589.  
Adams, B. F. See Van Nüys.  
Adie, R. H. See Muir.  
Adrian and E. Gallois, assay of opium, 622.  
Agostini, C., detection of dextrose, 534.  
Ahrens, F., octylbenzene, 133.  
— sparteine, 1056.  
Aitken, basic cinder and other finely ground phosphatic manures, 995.  
— experiments on potatoes at Harlelaw, 992.  
— ground felspar as a potash manure, 996.  
Allary, E., regeneration of acid residues in the manufacture of guncotton, 770.  
Allen, A. H., assay of carbolic soaps, 185.  
— detection of hop substitutes in beer, 1146.  
— examining fixed oils, 88.  
— Reichert's distillation process, 1145.  
— saponification of fixed oils, 186.  
— specific gravity, &c., of waxes, &c., 186.  
Allen, A. H., and W. Chattaway, Adam's method for milk analysis, 186.  
Alling, A. N., topaz from Thomas Range, Utah, 453.  
Almén, A., detection of mercury in organic liquids, 302.  
Alt, H. See Lellmann.  
Altar, S., oxidation of symmetrical trialkylpyridines, 378.  
Alvarez, E., microbe of the indigo fermentation, 1061.

- Amagat, E. H., expansion and compressibility of water, 695.  
— solidification of liquids by pressure, 1013.  
Amthor, C., Danneborg's haemidin crystals, 408.  
Andouard, A., incompatibility of nitrates and superphosphates, 617.  
— variations in the proportion of phosphoric acid in milk, 856.  
André, G., action of lead oxide on soluble chlorides, 446.  
— action of mercuric oxide on dissolved chlorides, 447.  
— ammoniacal compounds of cadmium chloride, 637.  
— ammoniacal compounds of cadmium sulphate and nitrate, 638.  
André. See Berthelot.  
Annaheim, J., substituted naphthlenediamines, 839.  
Anraeff, A. N., behaviour of quinol with urine and urea, 514.  
Anschtütz, R., aluminium chloride reaction, 150.  
— isomerism of fumaric and maleic acids, 916.  
Anschtütz, R., and W. Berns, phenylacetic acid and deoxybenzoins, 829.  
Anschtütz, R., and W. O. Emery, action of phosphorous chloride on salicylic acid and phenol, 946.  
Anschtütz, R., and A. R. Haslam, action of phosphoric chloride on chloralide, 915.  
Anschtütz, R., and G. D. Moore, action of phosphoric chloride on meta- and para-hydroxybenzoic acids, 947.  
— — — action of phosphoric chloride on salicylic acid, 947.

- Anschütz, R., and C. C. Selden, Glaser's monobromocinnamic acids, 829.
- Anschütz, R., and Q. Wirtz, anilides of fumaric and maleic acids: phenylaspartic acid, 934.
- Ansdel, G., and J. Dewar, gaseous constituents of meteorites, 351.
- Antrick, O., optical behaviour of cocaine, 506.
- Archbutt, L., analysis of oils, 402.
- Arheidt, R., diphenylenedihydrazine, 958.
- Arloing, S., zymotic virus and fermentation, 292.
- Armsby, H. P., and F. G. Short, apparatus for nitrogen determination, 298.
- Armstrong, H. E., determination of the constitution of carbon compounds from thermochemical data, 420.
- explanation of the laws which govern substitution in the case of benzenoid compounds, TRANS., 258, 583.
- influence of liquid water in promoting the interaction of hydrogen chloride and oxygen on exposure to light, TRANS., 806.
- Armstrong, H. E., and S. Williamson,  $\alpha$ -cyanonaphthalenesulphonic acid, PROC., 43.
- Armstrong, H. E., and W. P. Wynne, formation of  $\gamma$ -naphthalene-sulphonic acid:  $\gamma$ -dihydroxynaphthalene, PROC., 42.
- — sulphonic acids derived from the  $\beta$ -monohaloid derivatives of naphthalene, PROC., 22.
- Arnaud, A., carotene in leaves, 859.
- Arnhold, M., triethyl formate and various methylals, 911.
- Arnold, C., Kjeldahl's method of estimating nitrogen, 78.
- Arnschink, L., nutritive value of glycerol, 509.
- Arrhenius, S., conductivity of mixtures of aqueous solutions of acids, 415.
- Arth, G. See Haller.
- Arzruni, A., dipyr from Connecticut, 903.
- paragonite schist from the Ural, 351.
- Asboth, A. v., estimation of starch, 868.
- Aschan, O., action of chloracetic chloride on orthamidophenol, 814.
- Atkinson, A. J., estimation of sulphur in coal and coke, 296.
- Atkinson, R. W., estimation of manganese, 399.
- Atwater, W. O., acquisition of atmospheric nitrogen by plants, 515.
- comparative absorption of fish and meat in the alimentary canal, 1130.
- Atwater, W. O., and E. W. Rockwood, loss of nitrogen during germination and growth, 292.
- Aubin, C. See Graebe.
- Auger, V., action of oenanthaldehyde and heptyl chloride on dimethylaniline, 814.
- Autenrieth, W., dimethylene disulphone-derivatives, 463.
- substituted crotonic acids, 797.
- Axenfeld, pyrogallol as a test for hemialbumose, 1127.
- Ayrton, W. E., and J. Perry, expansion of mercury between  $0^\circ$  and  $-39^\circ$ , 317.
- — — expansion produced by amalgamation, 327.

## B.

- B. (E.), tannin determination, 311.
- Baas, K., relation of tyrosine to hippuric acid, 1133.
- Babbitt, H. C., manganese in steel and iron, 619.
- Bach, E. See Leuckart.
- Baessler, A., quinol and its derivatives, 364.
- Baeyer, A., constitution of benzene, 362.
- reduction of the phthalic acids, 370.
- Bahlmann, P., amido-compounds in the animal system, 512.
- Bailey, G. H., determination of atomic weights by means of the normal sulphate, TRANS., 676.
- silver suboxide, 771.
- Bailey, G. H., and G. J. Fowler, silver suboxide, TRANS., 416.
- Baither, O., tetramethyldiamido-benzophenone, 816.
- Baker, C. J., absorption of gases by carbon, TRANS., 249.
- Baker, T. See Miller.
- Balbiano, L., derivatives of camphor, 842, 1049, 1115.
- derivatives of pyrazole, 1054.
- Bamberger, E., reaction of potassium cyanide with orthonitrobenzyl chloride, 131.
- sparteine, 162.
- synthesis of guanylcarbamide, 357.
- Bamberger, E., and O. Boekmann, action of sodium on alcoholic  $\beta$ -naphthonitrile, 840.

- Bamberger, E., and O. Boekmann,  $\beta$ -naphthyl-derivatives, 675.  
 Bamberger, E., and W. Lodter, aromatic nitriles, 719.  
 Bamberger, E., and R. Müller, so-called carbonylcarbazole (carbazole-blue), 959.  
 Bamberger, E., and M. Philip, acenaphthene and naphthalic acid, 495.  
 —— pyrene, 271, 496.  
 Bandrowski, F. X., bases in Galician petroleum, 979.  
 Bannow, A., pure butyric acid, 29.  
 Barataeff, S., action of allyl and ethyl iodides on ethyl oxalate, 361.  
 —— methoxydiallylacetic acid, 359.  
 Barataeff, S., and A. Saytzeff, triethyl carbinol, 353.  
 Barbaglia, G. A., action of sulphur on aldehydes, 462.  
 —— isobutaldehyde and its polymerides, 461.  
 Barnes, J., valuation of zinc powder and testing of carbonates, 80.  
 Barr, A., nitrophenols and phenylhydrazine, 722.  
 Barth, M., estimation of glycerol in wines, 184.  
 Bartoli, A., and E. Stracciati, relation between the critical temperatures of substances and their thermal expansion as liquids, 429.  
 Bassett, H., and E. Fielding, action of hypochlorous anhydride on iodine trichloride, 106.  
 Battut, L., ammonia in beetroots, 71.  
 Baubigny, H., artificial formation of alabandine, 781.  
 —— Schweizer's reagent and "eau céleste," 773.  
 Baudoin, testing copper sulphate, 1139.  
 Bauer, F. See Elbs.  
 Bauer, R., apparatus for estimating carbonic anhydride and all similar gases, 398.  
 —— estimation of fatty acids as fats, 401.  
 Bauer, R. W. See Haedicke.  
 Baumann, A., estimation of ammoniacal nitrogen in soils, 82.  
 Baumann, E., compounds of aldehydes and ketones with mercaptan, 126.  
 —— disulphones, 123.  
 —— preparation of ethereal benzoates, 228.  
 Baumann, E. See also Escales.  
 Baumann, J., action of amines on ethylenedibenzoylorthocarboxylic acid, 735.  
 Bayer, F., and C. Duisberg,  $\beta$ -naphthylaminesulphonic acid, 732.  
 Bayer, K. J., basic aluminium sulphate, 448.  
 —— detection of free sulphuric acid, and of aluminium hydroxide in aluminium sulphate, 530.  
 Bayley, W. S. See Remsen.  
 Béchamp, A., causes of the alteration of blood in contact with air, oxygen, and carbonic anhydride, 609.  
 Becker, A., chemical constitution of barytocalcite and alstonite, 18.  
 Becker, G. F., natural solutions of cinnabar, gold, and associated sulphides, 555.  
 Becker, P., chlorination by means of acetic chloride, 932.  
 Beckmann, E., cracking glass with certainty, 105.  
 —— isonitroso-compounds, 826.  
 —— titration with Fehling's solution, 185.  
 Beckurts, H., ptomaines, 385.  
 Beckurts. See Holst.  
 Becquerel, E., effect of manganese on the phosphorescence of calcium carbonate, 190.  
 —— phosphorescence of calcium sulphide, 540.  
 —— phosphorescence of alumina, 191, 409.  
 Becquerel, H., variations in the absorption spectra of didymium salts, 873.  
 —— variations in the absorption spectrum of didymium, 537.  
 Béhal, A., capraldoxime and methylhexylacetoxime, 795.  
 —— caprylidene: constitution of capraldehyde, 788.  
 —— preparation of allyl iodide and allyl alcohol, 905.  
 Behla, G., substituted anthracene-carboxylic acids: action of carbonyl chloride on anthracene dihydride, 593.  
 Behrend, R., formation of dibromo- and dichloro-barbituric acids, 129.  
 —— synthesis of compounds of the uric acid series, 919.  
 Beketoff, N. N., change in volume during the formation of metallic oxides, 1073.  
 Belky, J., action of gaseous poisons, 392.  
 Belloni C. See Menozzi.  
 Bellucci, A., formation of starch in chlorophyll granules, 1136.  
 Bender, F., and G. Schultz, diamido-stilbene, 268.  
 Bender, G., bismuth thiocyanate, 566.  
 —— ethereal carbonates, 37, 245.  
 —— non-existence of chromium heptalsulphide, 553.

- Bender, G., substituted nitrogen chlorides, 44.  
 Benedikt, R., and F. Ulzer, investigation of acetyl compounds: new method for the analysis of fats, 620.  
 —— Turkey-red oil, 914.  
 Bente, F., determination of phosphoric acid, 397.  
 Berg, A., chromiodates, 776.  
 Berg, P. v., separation of zinc from iron, cobalt, and nickel, 182.  
 —— titration of zinc and cadmium sulphides with iodine, 301.  
 Bergami, O., examination of Caucasian madder root, 1061.  
 Bergami, O. See also Liebermann.  
 Bergreen, H., carbon thiodichloride, 937.  
 —— isonitroso-compounds, 466.  
 Berlinerblau, J., indole from dichlorether and aniline, 836.  
 Berlinerblau, J., and H. Polikiev, intermediate products in the formation of indoles from dichlorether and aromatic amines, 813.  
 Bernard, A., calcimetry, 865.  
 Berns, W. See Anschütz.  
 Berndsen, A., action of cinnamic acid on diphenylamine, 814.  
 —— constitution of the safranines, 139, 480.  
 —— new synthesis of thiadiphenylamine, 245.  
 —— phenazoxine, 665.  
 —— pyrogenic formation of phenazine, 249.  
 Berndsen, A., and A. Goske, methyl-orange and ethyl-orange, 666.  
 Berndsen, A., and H. Mettegang, reactions of quinolinic acid, 737.  
 Berndsen, A., and F. Muhlert, acrid-aldehyde and acridinecarboxylic acid, 849.  
 Berndsen, A., and H. Schweitzer, phenazine-derivatives, 139.  
 Berndsen, A., and A. Semper, synthesis of juglone, 674.  
 Berry, N. A., copper slag, 447.  
 Berthelot, ammonium magnesium phosphate, 202.  
 —— direct absorption of nitrogen from the atmosphere by vegetable soils, 395, 617.  
 —— metals and minerals of ancient Chaldea, 443.  
 —— phosphates of the alkaline earths, 877.  
 —— sugars, 24.  
 —— thermochemistry of phosphates, 94.  
 —— thermochemistry of reactions between magnesia salts and ammonia, 96.  
 Berthelot and André, decomposition of amides by water and dilute acids, 235.  
 —— —— decomposition of ammonium hydrogen carbonate by water, &c., 11.  
 —— —— evolution of ammonia from vegetable soils, 860.  
 —— —— nitrogen compounds in vegetable soils, 293.  
 —— —— tension of dissociation of dry ammonium hydrogen carbonate, 10.  
 Berthelot, and C. Fabre, heat of formation of hydrogen telluride, 1010.  
 —— —— tellurium, 761.  
 Berthelot and Louguinine, heats of combustion, 762.  
 Berthelot and Recoura, heats of combustion, 761.  
 —— —— passage from the benzene to the acetic series, 1011.  
 —— —— the calorimetric bomb, 627.  
 Bertozi, G., ethereal salts of nitrous acid, 458.  
 Betelli. See Pesci.  
 Bettel, W., separation of gold from the platinum metals, 1084.  
 Beutell, A., prehnite from Silesia, 223.  
 Beyer, C., quinoline-derivatives from  $\beta$ -diketones, 849.  
 Beyer, C., and L. Claisen, introduction of acid radicles into ketones, 943.  
 Biedermann, J., parahydroxybenzyl alcohol, 38.  
 Biedert, albuminoïds of human milk and of cow's milk, 388.  
 Biginelli, P. See Guareschi.  
 Bikfalvi, K., haemin crystals, 165.  
 Billeter, O., action of thiocarbonyl chloride on secondary amines, 822.  
 Billeter, O., and A. Steiner, thiocarbamides of bibasic aromatic radicles, 366.  
 Bird, F. C. J., a filter tube for use in the estimation of alkaloids by Mayer's reagent, 1002.  
 Bird, G. B., mercurous hydroxide, 447.  
 —— purification of zinc, 446.  
 Birukoff, W., dimethylanthragallol, 592.  
 —— erythrohydroxyanthraquinone-carboxylic acid, 1049.  
 —— methylerythrohydroxyanthraquinone, 964.  
 Bischof, sodium felspar from Krageroe, Norway, 453.  
 Bischoff, C. A., and A. Hausdörfer, action of iodine on derivatives of ethyl sodomalonate, 916.  
 Bischoff, C. A., and H. Siebert, benzyl and benzoyl compounds, 951.  
 Bladin, J. A., dicyanphenyllhydrazine compounds, 138.

- Blarez, C., saturation of arsenic acid with calcium and strontium oxides, 8.  
 — saturation of arsenic acid with magnesia: formation of ammonium magnesium arsenate, 204.  
 — saturation of normal arsenic acid with barium hydroxide, 7.  
 — saturation of selenious acid by bases, 106.  
 Blarez, C., and G. Denigés, estimation of uric acid by potassium permanganate, 621.  
 — solubility of uric acid, 919.  
 Blau, F., action of sodium methoxide on bromobenzenes, 242.  
 Blochmann, R., action of aniline hydrochloride on ethyl cyanide, 931.  
 — carbonic anhydride in the atmosphere, 214.  
 Block, J., and B. Tollens, salts of levulinic acid, 800.  
 Blomstrand, C. W., oxy-acids of iodine, 327.  
 Blount, B., calcium borate, 108.  
 Bloxam, C. L., calcium ammonium arsenate and calcium arsenate, 108.  
 — colour tests for strychnine and other alkaloids, 752.  
 Blümcke, A., specific gravities of mixtures of ethyl alcohol and carbonic anhydride, 435.  
 Blum, L., detection of albumin in urine, 1003.  
 — separation of manganese from iron, 183.  
 Blumenbach, E. See Dragendorff.  
 Blunt, T. P., a simple nitrometer, 998.  
 Blyth, A. W., distribution of lead in the brains of two factory operatives dying suddenly, PROC., 71.  
 Bock, O., conductivity of compounds of potassium and sulphur in solution, of sodium sulphide, and of boric acid, 758.  
 Bockal, A., physiological action of paraldehyde, 391.  
 Bocklisch, O., ptomaines from pure cultivations of *Vibrio proteus*, 742.  
 Boehm, M. See Engler.  
 Boehm, R., curare, 1125.  
 Boekmann, O. See Bamberger.  
 Böttcher, W. See Kraemer.  
 Böttlinger, C., oak tannin, 584.  
 Bohland, R. See Pflüger.  
 Bohn, R., and C. Graebe, galloflavin, 1107.  
 Boisbaudran, L. de, atomic weight of germanium, 15.  
 — fluorescence of bismuth compounds, 4.  
 Boisbaudran, L. de, fluorescence of manganese compounds, 3.  
 — fluorescence of manganese and bismuth, 189, 873, 1006.  
 — fluorescence of spinel, 1005.  
 — gallium, 1081.  
 — new fluorescences with well-defined spectra, 1008.  
 — purification of yttria, 13.  
 — red fluorescence of alumina, 191, 409, 538, 625.  
 — red fluorescence of chromiferous gallium, 755.  
 Boissieu. See De Boisieu.  
 Bokorny, T., reduction of silver salts by living protoplasm, 987.  
 Boltzmann, L., thermochemical law conjectured by Pebal respecting non-reversible electrolytic actions, 1072.  
 Bondzynski, S., derivatives of hydro-thiocinnamic acid, 1108.  
 Bonhöffer, O. See Lellmann.  
 Bonna, A., phenylparatoluidine, 927.  
 Borchers, W., galvanic element, 541.  
 Bordas, grain of *Holcus sorgho*, 519.  
 Bornemann, E., metamethylcinnamic acid, 829.  
 Bosscha, J., meteorite of Karang, Modjo, or Magetan, in Java, 710.  
 Bothamley, C. H., orthochromatic photography, 874.  
 Bott, W., and D. S. Macnair, apparatus for determining vapour-densities, 632.  
 Bouchardat, G., and J. Lafont, active camphene and ethylborneol, 596.  
 Bouchardat, G., and R. Voiry, terpinol, 677.  
 Bouilhon, E., estimation of solid matter in wines, 87.  
 Bourgeois, L., artificial production of crocoisite, 781.  
 — calcium silicostannate, 333.  
 — crystallised insoluble carbonates, 221.  
 Bourquelot, E., action of saliva on starch, 354.  
 — deterioration of diastase by the action of heat, 608.  
 — starch granules, 355.  
 Boutroux, L., gluconic acid, 468.  
 Bouthy, E., application of the electrometer to the study of chemical reactions, 882.  
 — conductivity of acids and salts in dilute solutions, 758.  
 — conductivity of mixtures, 877.  
 Bowman, W., acetylhydrocotarnine-acetic acid, 1056.  
 — action of potassium cyanide on meconine, 586.

- Boys, C. V., Bunsen's ice calorimeter, 1073.  
 Bragard, M., estimation of zinc as pyrophosphate, 398.  
 — zinc determination, 689.  
 Brand, A., artificial breithauptite from the Mechernich lead furnaces, 17.  
 — use of "solid bromine" in analysis, 688.  
 Brand, C., determination of combined carbon in iron, 866.  
 Braun, F., decrease of compressibility of ammonium chloride solutions with increase of temperature, 768.  
 — solubility of solid substances, and the changes in volume and energy accompanying solution, 436.  
 Bréal, E., new mode of testing for nitrates, 1138.  
 Bredt, J., acetyllevulinic acid; constitution of  $\gamma$ -ketonic acids, 126.  
 Bernstein, and T. Salzer, detection of thiosulphate in sodium hydrogen carbonate, 79.  
 Brieger, L., a new ptomaine producing tetanus, 284.  
 — source of trimethylamine in ergot of rye, 394.  
 Brinckmann. See Fleischer.  
 Brodsky, L., action of aldehydes on ammonium thiocyanate, 580.  
 Brömme, W., behaviour of cyano-benzoic acids on dry distillation, 484.  
 — metacyanobenzoic acid, 484.  
 Brown, A. J., chemical action of *Bacillus aceti*, TRANS., 638.  
 Brown, J., theory of voltaic action, 417.  
 Brown, W. G., crystallographical notes, 342.  
 Brown, W. L., analysis of chrome paints, 304.  
 Browne, G. M. See Michael.  
 Brücke, E. v., colour reaction of guanine, 280.  
 — does human urine contain free acid? 986.  
 Brückner, E., Russian black earth, 687.  
 Brühl, J. W., criticism of Thomsen's theory of the heat of formation of organic compounds, 423.  
 — experimental examination of the older and more recent dispersion formulae, 195.  
 — influence of single and double union on the refractive power of compounds: constitution of benzene and naphthalene, 1005.  
 — molecular refraction of liquid organic compounds of high dispersive power, 191.  
 Brühl, J. W., Thomsen's supposed explanation of molecular refraction relations, 200.  
 Brugman, W. F., influence of copper on the estimation of sulphur, 296.  
 Brunemann, determination of phosphorus in basic slag, 527.  
 Brunner, J. C. A., action of isobut-aldehyde on quinaldine, 975.  
 Brunner, P., and O. N. Witt, benzdine-derivatives, 672.  
 Brunner, P. See also Skraup.  
 Brunswig, H., derivatives of acetothiënone, 236.  
 Brunton, T. L., and J. T. Cash, action of caffeine and theine on voluntary muscle, 985.  
 — — — chemical constitution and physiological action, 985.  
 Buchanan, J., electrical conductivity of hot gases, 1071.  
 Buchka, K., formation of phenylglyoxylic acid from benzoic cyanide, 487.  
 — paratolylglyoxylic acid, 949.  
 Buchka, K., and P. H. Irish, action of potassium ferricyanide on acetophenone, 483.  
 — — — oxidation of ketones, 825.  
 Bücher, A. W. See Claus.  
 Büchner, E., action of carbonic anhydride on ultramarine, 774.  
 Bülow, C., ethyl phthalacetooacetate, 144.  
 — phenylhydrazine compounds, 138.  
 Buisine, A., amines in suint, 792.  
 Bulach, W., action of paranitrobenzaldehyde on quinaldine, 976.  
 Bulitsch, P., analysis of the water of a saline lake, 648.  
 Bunsen, R., decomposition of glass by carbonic anhydride condensed on its surface, 13.  
 Burghardt, C. A., determination of organic carbon and nitrogen in waters, 619.  
 Burton, B. S., and H. v. Pechmann, action of phosphoric chloride on ethyl acetonedicarboxylate, 467.  
 Burton, C. I. See Japp.  
 Busatti, L., minerals from Tuscany, 19.  
 — wollastonite from Sardinia, 709.  
 Busch, A., manufacture of santonin, 677.  
 Butler, F. H. See Kinch.

## C.

- Cahn, E. L., methylanthragallols, 57.  
 Cahn, E., and M. Lange, action of

- aldehydes on amidosulphonic acids, 962.
- Calmels. See Hardy.
- Campani, G., volumetric estimation of urea, 1145.
- Campbell, E. D., estimation of sulphur in soluble slags, 526.
- Cannizzaro, S., and G. Fabris, acid from santonin: isophosantonic acid, 57.
- Canzoneri, F., and V. Oliveri,  $\beta$ -bromofurfuran, 658.
- transformation of furfuran into pyrrole, 470.
- Canzoneri, F., and G. Spica, ethoxy-lutidine, 499.
- Carnegie, D. J. See Muir.
- Carnelley, T., and W. Mackie, determination of organic matter in air, 532.
- Carnelley, T., and A. Thomson, derivatives of tolylbenzene, TRANS., 87.
- Carnot, A., reactions of vanadic acid, 896.
- vanadates, 1018.
- Carpenter, R. F., solubility of silver chromate in ammonium nitrate, 216.
- Cash, J. T. See Brunton.
- Castner, H. Y., production of alkali metals, 107.
- Causse, H., acetalresorcinol, 40.
- action of acetaldehyde on polyvalent phenols, 809.
- Cazeneuve, P.,  $\beta$ -chloronitrocumphor, 970.
- isomeric nitrocumphors, 842.
- Cazeneuve, P., and Hugounenq, pterocarpin and homopterocarpin, 971.
- Celli, A., and F. Marino-Zucco, nitrification, 858.
- Cesáro, G., destinezite, 709.
- Chancel, G., and F. Parmentier, solubility of calcium orthobutyrate and isobutyrate, 547.
- variation of solubility with variation of heat of solution, 632.
- Chaperon, G. See Gouy.
- Chapman, A., method for estimating fluorine, 295.
- Chappuis, J., latent heat of vaporisation of certain volatile substances, 627.
- Chappuis, J., and C. Rivière, refractive index and compressibility of cyanogen, 753.
- vapour-tension of liquid cyanogen, 764.
- Chasanowitzsch, J., action of phosphorus pentachloride on salicylic acid, 725.
- Chatard, T. M., lucasite, a new variety of vermiculite, 349.
- Chatelier. See Le Chatelier.
- Chattaway, W. See Allen.
- Chauveau, A., and Kaufmann, heat developed by the activity of muscles, 1059.
- relation between the destruction of glucose and the production of animal heat and work, 289.
- Chester, A. H., mineralogical notes, 782.
- Chetnicki, S. v., carbonylorthamidophenol and thiocarborthamidophenol, 477.
- Christensen, O. T., chemistry of manganese and fluorine, 335, 448, 892.
- Chroustchoff, precipitation of mixtures of iodates and sulphates by barium salts, 884.
- Chroustchoff. See De Chroustchoff.
- Chroustchoff, P., and A. Martinoff, coefficients of chemical affinity, 548.
- Ciamician, G., behaviour of methylketole: constitution of pyrrole, 273.
- conversion of pyrrole into pyridine-derivatives, 678.
- tetriodopyrrole, 597.
- Ciamician, G., and M. Dennstedt, extraction of pyrrole from animal oil, 59.
- Ciamician, G., and P. Silber, action of acetic anhydride on methylpyrrole and benzylpyrrole, 843.
- action of light on nitrobenzene, 240.
- conversion of pyrrole into pyridine-derivatives, 378.
- determinations of positions in the pyrrole series, 597.
- synthesis of pyrrole, 273.
- Citron, H., mucin in urine, 390.
- Claassen, E. extraction of vanadium and chromium from iron ores, 449.
- manganese sulphate, 774.
- solubility of manganese sulphide in fused potassium sulphide, 449.
- Claisen, L., action of aldehydes on phenols, 270.
- action of nitrous acid on ketones, 463.
- action of sodium alkoxides on benzaldehyde, 574.
- addition of ethyl malonate to unsaturated compounds, 800.
- condensation of aldehydes with phenols and aromatic amines, 494.
- introduction of acid radicles into ketones, 575.

- Claisen, L., and L. Fischer, benzoyl-aldehyde, 940.  
 Claissen, L., and O. Lowman, preparation of ethyl benzoylacetate, 583.  
 Claissen, L., and O. Manasse, nitroso-ketones, 944.  
 Claissen, L., and N. Stylos, action of ethyl acetate on acetone, 917.  
 Claissen. See also Beyer.  
 Clarke, F. W., lithia micas, 347.  
 Clarke, F. W., and J. S. Diller, turquoise from New Mexico, 116.  
 Claudon, E., and E. C. Morin, alcohols in brandy, 714.  
 —— fermentation of sugar with elliptical yeast, 746.  
 Claus, A., action of concentrated sulphuric acid on aromatic ketones, 251.  
 —— constitution of benzene, 719.  
 Claus, A., and A. W. Bücher, chlorobenzoic acids, 828.  
 Claus, A., and F. Collischonn, bromoquinoline, 158.  
 —— quinoline, 60.  
 Claus, A., and M. Erler, bromo-derivatives of diphenic acid, 268.  
 Claus, A., and P. Feist,  $\alpha$ -naphthyl methyl ketone, 271.  
 Claus, A., and E. Fickert, paraxylyl ethyl ketone, 253.  
 Claus, A., and H. Hirzel, alkyl-derivatives of aniline, 134.  
 Claus, A., and M. Kickelhayn, cinchonic acid, 846.  
 Claus, A., and K. Kroseberg, paratolylglyoxylic, paratolylhydroxyacetic, and paratolylacetic acids, 948.  
 Claus, A., and P. Küttnér, quinoline-sulphonic acids, 278.  
 Claus, A., and E. Pieszcek, orthoethyltoluene, 240.  
 Claus, A., and O. Schmidt,  $\beta$ -naphthol- $\beta$ -disulphonic acid, 269.  
 Claus, A., and J. A. Schulte im Hof, cumeneorthosulphonic acid and orthocumic acid, 264.  
 Claus, A., and A. Stiebel, metanitro-parachloraniline, 810.  
 Claus, A., and E. Trainer, action of hydrogen chloride on mixtures of aldehyde with alcohols, 231.  
 Claus, A., Werner, Schlarb, and Murtfeld, aromatic ethylene di-ketones and alkylated benzoyl- $\beta$ -propionic acids, 827.  
 Cleminshaw, E. See Japp.  
 Clermont, A., normal quinine hydrochloride, 980.  
 Cléve, P. T., action of chlorine on acet- $\alpha$ -naphthalide, 494.  
 —— action of chlorine on aceto- $\beta$ -naphthylamine, 961.  
 Cléve, P. T., chloronaphthalenesulphonic acids, 374.  
 —— compound of quinaldine with formamide, 381.  
 —— sulphimido-compounds, 834.  
 Cloez, C., chloracetones, 1091.  
 Cloez, C. See also Grimaux.  
 Cloizeaux. See Des Cloizeaux.  
 Cohen, E., pallasite from Campo de Pucará, 904.  
 —— talc, pseudophosphate, and muscovite from South Africa, 561.  
 Cohen, J. B., note on some double thiosulphates, TRANS., 38.  
 Cohn, R. See Jaffé.  
 Cohn, S., solubility of gypsum in solutions of ammonium salts, 333.  
 Colasanti, G., reactions of creatinine, 1056.  
 Colby, C. E., and C. S. McLoughlin, action of sulphurous anhydride on benzene, 371.  
 Coleman, J. J., liquid diffusion, 440.  
 Collie, N., action of heat on triethylbenzylphosphonium salts, 1106.  
 —— condensation product of ethyl amidoacetacetate with hydrochloric acid, 501.  
 Collins, J. H., minerals from Porthalla Cove, Cornwall, 1022.  
 Collischonn, F. See Claus.  
 Colman, H. G., and W. H. Perkin, jun., distillation of calcium tetramethylenecarboxylate with lime, 234.  
 —— synthetical formation of closed carbon-chains. Part II—cont. Some derivatives of tetramethylene, TRANS., 228.  
 Colson, A., erythrol, 353.  
 —— isomerism of position, 420.  
 —— products from the residues of compressed gas, 787.  
 Combemale. See Mairet.  
 Combes, A., homologues of acetylacetone, 653.  
 —— new reaction of aluminium chloride: synthesis in the acetic series, 127.  
 —— synthesis in the paraffin series by means of aluminium chloride, 656.  
 Comey, A. M. See Jackson.  
 Comstock, W. J., and W. Koenigs, cinchona alkaloids, 281, 1122.  
 Coninck, O. de, alkaloids, 58, 603, 851.  
 Conrad, M., and W. Epstein, lutidine-derivatives from lutidinemcarboxylic acid, 501.  
 Conrad, M., and M. Guthzeit, action of ammonia and primary amines on ethyl dimethylpyrondedicarboxylate, 500.

- Conrad, M., and M. Guthzeit, action of dilute acids on grape-sugar and fruit-sugar, 25.  
 —— decomposition of milk-sugar by dilute hydrochloric acid, 26.  
 —— ethyl dimethylpyronedicarboxylate, 502.  
 —— formation and composition of humous substances, 229.
- Conrad, M., and L. Limpach, synthesis of quinoline-derivatives by means of ethyl acetoacetate :  $\gamma$ -hydroxyquin-aline, 679.
- Constantinidi, A., wheat gluten as a food, 511.
- Cornu, M. A., distinction between spectral lines of solar and terrestrial origin, 313.
- Cornwall, H. B., examination of butter colours, 621.
- Cornwall, H. B., and S. Wallace, Reichert's method of butter analysis, 309.
- Cossa, A., ammoniacal platinum compounds, 642.  
 — columbite from Graveggia, Val Vigezzo, 645.
- Cousins, A. C., relations of mercury to other metals, 1080.
- Cownley, A. J. See Paul.
- Crafts, J. M. See Friedel.
- Cramer, A., glycogen, 1127.
- Crampton, C. A., analyses of sugar-cane and beet juices, 751.
- Crampton, C. A., and T. C. Trescot, estimation of carbonic anhydride in beer, 1144.
- Creydt, R., estimation of melitose, 306.
- Croxander, A., new method of estimating fat in milk, 308.
- Crookes, W., crimson line of phosphorescent alumina, 1066.  
 — new elements in gadolinite and samarskite, 334.  
 — radiant matter spectroscopy : examination of the residual glow, 1066.  
 — sharp line spectra of phosphorescent yttria and lanthana, 1070.  
 — sharp line spectrum of phosphorescent aluminium, 1069.
- Crosa, E. See Fileti.
- Cross, W. J., and W. F. Hillebrand, elpasolite, a new mineral, 344.
- Cuisinier, L., glucose and the saccharification of starch, 354.
- Cundall, J. T. See Shenstone.
- Curtius, T., hydrazine (diamidogen), 715.
- Curtius, T., and F. Koch, derivatives of diazosuccinic acid, 33.
- Curtius, T., and G. Lederer, benzylamine, 40.
- Curtman, C. O., detecting aniline colours in wines, 1147.  
 — detection of salicylic acid, 185.
- Czarnomski, N. v. See Kelbe.
- D.
- Daccomo, G., and V. Meyer, density of nitric oxide at  $-100^{\circ}$ , 887.
- Dafert, F. W., estimation of moisture in starch, 1143.
- Dahl, A., preparation of benzylros-anilinedisulphonic acids, 579.
- Dahm, C., and K. Gasiorowski, condensation products from carbo-imides and orthodiamines, 247.
- Daimler, C., action of ethyl iodide and zinc on ethyl malonate, 360.
- Daimler, C. See also Fittig.
- Dambergis, A. K., analysis of mineral springs in Aegina and Andros, 23.
- Damour, A., a pink clay, 647.
- Damour, A. See also Des Cloizeaux.
- Damsky, A., isomerism of the thiophenic acids : derivatives of  $\beta$ -thiophenic acid, 237.
- Dana, E. S., brookite from Magnet Cove, Arkansas, 116.  
 — columbite, 20.  
 — crystallisation of native copper, 341.  
 — mineralogical notes, 343.
- Dana, E. S., and S. L. Penfield, two hitherto undescribed meteoric stones, 120.
- Danneberg, E., detection of blood stains in presence of iron-rust, 408.
- Darapsky, L., Chilian alums, 558.
- Dathe, E., kersantite from Wustewaltersdorf, in Silesia, 562.
- Daubrée, meteorite at Djati Pengilon, Java, 1024.  
 — note on a meteorite in a tertiary lignite, 22.
- Deane, L. M., estimation of manganese and of phosphorus in iron and steel, 183.
- De Boisbaudran. See Boisbaudran.
- De Boissieu, P., water of crystallisation of alums, 892.
- Debray, H., action of acids on alloys, 779.  
 — crystalline alloys of tin and the platinum metals, 779.  
 — products of the action of acids on alloys of the platinum metals, 900.
- Debray, H., and Péchard, alterations of the carbon electrodes used for the electrolysis of acids, 1009.
- Deby, J., cyprusite, 644.

- Dechan, M., note on an improved form of apparatus for the separation of iodine, chlorine, and bromine, *TRANS.*, 690.
- De Chroustchoff, K., artificial production of quartz and orthoclase, 559.  
— artificial production of quartz and tridymite, 559.  
— plagioclase, 20.
- De Coninck. See Coninck.
- De Forcrand, action of ethylene bromide on alkyl metallic oxides, 544.  
— alcoholates of potassium glycer-oxide, 427.  
— alcoholates of sodium glyceroxide, 426.  
— heats of formation of potassium alcoholates, 318.  
— heats of formation of potassium methoxide and ethoxide, 204.  
— heats of formation of sodium alkyl oxides, 319.  
— potassium glycerolate, 320.  
— sodium glycerolate, 8.
- Degen, J., indoles from methylphenyl-hydrazine, 149.
- Dehérain, P. P., production of nitrates in arable soil, 993.  
— valuation of manures, 174.
- Dehérain, P. P., and Maquenne, absorption of carbonic anhydride by leaves, 172.
- Deike, W. See Jacobsen.
- De Koninck, L. L., detection of ammonia, nitric or nitrous acids, and thiosulphuric acid, 297.  
— new reaction of thiosulphates, 297.
- Delachanal. See Vincent.
- Delacharlonny, P. M., volatilisation of dissolved substances during the evaporation of the solvent, 211.
- De Lacre, M., dichlorethyl alcohol, 713.
- De Landero, C. F., tellurium-silver-bismuth from Jalisco, Mexico, 1084.
- De Landero and R. Prieto, some laws of chemical combination, 99.
- Delépin, S., calcium urate, 469.
- De Lesseps, water from artesian well in the Tunisian Chotts, and from the spring at Oued Ref, 455.
- Delisle, A., action of sulphur dichloride on ethyl acetoacetate, 915.
- Demant, B., glycogen in the liver of new-born dogs, 167.
- Demarçay, E., action of carbon tetrachloride on metallic oxides, 329.  
— cerite earths, 551.  
— spark-spectra from coils of low tension, 587.  
— spectra of didymium and samarium, 1008.
- De Mondésir, P., artificial production of trona or urao, 771.  
— particular case of the formation of sodium hydrogen carbonate, 699.
- Demuth, R., and V. Meyer, sulphuranes, 906.
- Denaro, A., decomposition of silicic acid by leaves, 70.  
— dichloropyromucic acid, 34.
- Denigés, G. See Blarez.
- Dennstedt, M., and J. Zimmermann, action of acetone on pyrrole, 598, 1052.  
— — — action of propionic anhydride on pyrroline, 844.
- Dennstedt, M. See also Ciamician.
- De Rego, J. H., detection of acid coal-tar colours in wine, 405.
- De Saint Gilles, L. P. · See Haute-feuille.
- Des Cloizeaux, monoclinic form and optical properties of arsenious anhydride, 1015.
- Des Cloizeaux, A., and A. Damour, chemical composition of herderite, 19.
- Des Cloizeaux, A., and F. Pisani, oligoclase, 20.
- Des Cloizeaux, A. See also Hidden.
- De Varda, G. See Spica.
- De Vrij, J. E., quinine chromate in analysis, 404.
- Dewar, J. See Ansdell.
- De Zaaijer, H. G., andromedotoxin, 497.
- Diakonoff, N. W., molecular respiration of plants, 988.
- Dieff, W., action of silver acetate on tetrabromodiethyl carbinol, 353.
- Dieff, W., and A. Reformatzky, oxidation of ricinoleic and linoleic acids, 716.
- Diehl, L., and A. Einhorn, derivatives of orthamidophenylvaleric acid, 485.
- Dietrich, E., opium testing, 310.
- Dietrich, F., and C. Paal, pyrotritartaric acid-derivatives, 658.
- Dieudonné, H., estimation of tannin, 187.
- Diez, R., quantitative estimation of glycerol, 750.
- Diller, J. S. See Clarke.
- Dingwall, J. See Frankland.
- Ditte, A., compounds of stannic oxide, 336.  
— estimation of vanadic acid, 691.  
— metallic vanadates, 639, 705, 898, 899.
- Divers, E., the formation of hyponitrites, *PROC.*, 119.
- Divers, E., and T. Haga, reduction

- of nitrates to hydroxylamine by hydrogen sulphide, *TRANS.*, 48.
- Divers, A., and T. Haga, relation between sulphites and nitrites of metals other than potassium, *TRANS.*, 659.
- Dixon, H. B., preservation of gases over mercury, 105.
- Dixon, W. A., constitution of acids, 443.
- Dobreff, N., orthodibenzylidicarboxylic acid, 958.
- Doebner, O.,  $\alpha$ -alkylcinchonic acids, 504.
- Donath, E., barium manganate, 552.  
— decomposition of chrome-iron ore, 619.
- Donath, E., and R. Jeller, detection and determination of traces of chromium, 531.
- Donath, E. See also Schöffel.
- Dott, D. B., acid morphine acetate, 505.
- Dragendorff, G., physiological action of convolvulin and jalapin, 291.
- Dragendorff, G., and E. Blumenbach, thallin, 871.
- Dragendorff, G., and W. Jacobson, isolation and detection of phenol, 867.
- Dragendorff, G., and H. v. Rosen, alkaloids of lobelia, 854.
- Dragendorff, G., and S. Salomonowitsch, myoconine, 858.
- Dragendorff, G., and H. Tiesenhausen, chloral hydrate, 866.
- Drake, D., and J. M. Graham, electric accumulators, 418.
- Draper, C. N., solubility of lithium carbonate, 699.
- Draper, H. N., silver ammonio-nitrate, 331.
- Draper, H. N., and C. Draper, behaviour of alkaline solutions of phenolphthalein in presence of alcohol, 618.
- Drasche, E., analysis of Persian eruptive rocks, 223.
- Drechsel, E., argentous compounds, 699.  
— formation of complex inorganic acids, 703.  
— nitrous acid, 698.
- Dubourg, E. See Gayon.
- Duclaux, E., actinometry, 189.  
— butter from various districts, 996.  
— chemical changes produced by sunlight, 93.  
— comparative action of heat and solar radiation, 411.  
— preparation of valeric acid, 1028.
- Dürkopf, E., preparation of pyridine bases, 499.
- Dürkopf, E., and M. Schlaugk, constitution of aldehyde-collidine, 737.
- Dürr, F. See Willgerodt.
- Duisberg, C. See Bayer.
- Dunstan, W., and T. S. Dymond, formation of hyponitrites, *TRANS.*, 646, and *PROC.*, 121.
- Duparc, L., reduction of orthonitrophenylglycolic acid, 948.
- Dupetit, G. See Gayon.
- Duvillier, E., creatines and creatinines, 850.  
— trimethyl- $\alpha$ -amidobutyrobetaine, 792.
- Dyer, J. O., and W. G. Mixer, halogen-derivative of oxanilide, 251.
- Dymond, T. S. See Dunstan.
- Dyson, G., action of salicylic aldehyde on sodium succinate in presence of acetic anhydride, *TRANS.*, 61.  
— apparatus for determining vapour-densities, 431.

**E.**

- Ebeling, A., electromotive force of some thermo-elements, 414.
- Eberhardt, L. A., black pepper oil, 969.
- Edeleano, L., derivatives of phenylmethacrylic acid and of phenylisobutyric acid, 583.
- Eder, J. M., practical methods of photographing the spectrum, 93.
- Effront, J., estimation of starch and sugars, 867.
- Ehrenberg, A., formation of nitrogen during putrefaction, 746.  
— is free nitrogen formed during putrefaction? 172.  
— sausage poisoning, 392.  
— substituted methylenediamines, 1026.
- Eigel, F., trachytic rocks from the Island of San Pietro, 904.
- Eigel, G., paracoumaric acid, 1109.
- Eijkman, F. J., cinnamic acid in plants of the Ericaceæ family, 517.  
— hydrastine, 505.  
— substances from *Illicium religiosum*, 497.
- Einhorn, A., eegonine, 741.
- Einhorn, A., and A. Liebriecht, action of chloral on  $\alpha$ -picoline, 845.
- Einhorn, A. See also Diehl.
- Eisele, F., action of paraldehyde on quinaldine, 975.
- Eisenmann, R., galvanic element, 757.
- Ekstrand, Å. G., naphthoic acids, 373, 840.
- Elbel, K., derivatives of normethyl-nitro-opianic acid, 49.

- Elborne, W., strophanthus, 991.  
 — strophanthus and strophanthin, 1116.
- Elbs, K., aromatic ketones, 940.  
 — formation of substituted stilbenes, 151.
- Elbs, K., and F. Bauer, substituted stilbenes, 151.
- Elbs, K., and H. Eurich, 2 : 3 dimethylanthraquinone, 841.
- Elbs, K., and M. Günther, 1 : 3 dimethylanthraquinone, 841.
- Elkan, T., isomeric aldehydophenoxy-acetic acids, 258.  
 — vanilinoxyacetic acid, 259.
- Ellenberger and Hofmeister, digestion and digestive secretions in the horse, 744.  
 — — — digestion in the pig, 512.  
 — — — nitrogenous contents of the digestive juices, 1129.  
 — — — period required for digestion in the pig, 684.
- Ellis, C. J., Maumene's test for oils, 89.
- Elsas, A., Nobili's rings and allied electrochemical phenomena, 759.
- Emden, R., vapour-tensions of saline solutions, 764.
- Emerson, W. H., oxidation of nitromesitylene, 132.
- Emerson, W. H. See also Remsen.
- Emery, W. O. See Anschütz.
- Emmerling, A., fermentation of albumin in plants, 615.
- Engel, R., action of ammonia on chloroethanes: direct union of ammonia with unsaturated compounds, 793.  
 — condensation of acetone with chloroform, 569.  
 — conversion of fumaric and maleic acids into aspartic acid, 917.  
 — effect of hydrochloric acid on the solubility of chlorides, 445.  
 — effect of nitric acid on the solubility of nitrates, 632.  
 — effects of sulphuric acid on the solubility of sulphates, 546.  
 — hydrochloride of ferric chloride, 894.  
 — solubility of calcium and magnesium chlorides in water at 0°, 771.
- Engelhardt, E. See Otto.
- Engelmann, F. See Schmitt.
- Engler, C., and M. Boehm, vaselin, 456.
- Engler, C., and C. Schestopal, action of acetone on paramidoazobenzene, 479.
- Engler, C., and E. Wöhrlé, preparation of mandelic acid and its derivatives, 948.
- Epstein, W. See Conrad, Guthzeit.
- Erb, L. See Janovsky.
- Erban, F. See Schmidt.
- Erben, B., Bohemian minerals, 644.
- Erlenmeyer, E., jun., constitution of phenyl- $\alpha$ - and phenyl- $\alpha$ - $\beta$ -hydroxy-propionic acids, 1046.  
 — Plöchl's phenylglycidic acid, 142.
- Erlenmeyer, E., and J. Rosenhek, phenyliodohydroacrylic acid, 45.
- Erler, M. See Claus.
- Ernst, F., reduction of  $\alpha$ -thiophenic acid, 471.  
 — reduction of  $\alpha\alpha$ -thiophendicarboxylic acid, 237.  
 — synthetical investigations in the thiophen series, 238.
- Errera, G., chloropropylbenzene, 35.  
 — decomposition of mixed ethers by nitric acid and heat, 1103.  
 — ethyl parabromobenzoate and parabromobenzoic acid, 1107.  
 — reaction of stilbene, 53.
- Escales, R., and E. Baumann, disulphones, 123.
- Etard, A., solubility of copper sulphate, 772.
- Etienne, E. See Venator.
- Eurich, H. See Elbs.
- Evershed, F. See Green.

## F.

- Faber, H., the lactocrate: a new apparatus for determining fat in milk, 1144.
- Fabre, C., heat of formation of crystallised tellurides, 1010.  
 — selenium alums, 1014.
- Fabre, C. See also Berthelot.
- Fabris, G. See Cannizzaro.
- Faë, G., variations in the electrical resistance of antimony and cobalt in a magnetic field, 760.
- Fahlberg, C., and R. List, ethyl benzoic sulphinide and ethyl orthosulphaminebenzoate, 835.
- Fairley, T., estimation of sulphur and impurities in coal-gas, 297.
- Fasbender, H., compounds of aldehydes and ketones with mercaptan, 462.
- Federer, E. C., test for oil of peppermint, 1001.
- Feer, A. See Graebe.
- Feist, P. See Claus.
- Ferkó, P., pyrogenic reactions, 572.
- Fick, R., formation and properties of inositol and its occurrence in the vegetable kingdom, 1089.
- Fickert, E. See Claus.

- Fielding. See Bassett.
- Fileti, M., bromoterephthalic acid, 52.
- Fileti, M., preparation of aromatic amides, 42.
- reciprocal transformation of cumene-derivatives and cymene-derivatives, 36, 471.
- Fileti, M., and F. Crosa, chlorocymene and bromocymene from thymol, 37.
- Finger, H. See Weddige.
- Fink, R., affinity of certain bivalent metals for sulphuric acid, 885.
- Finkener, distinction of castor oil from other fatty oils, 402.
- Finkener, R., action of carbonic anhydride on the dihydrate of strontium, 217.
- Firth, R. H., poisonous ptomaine in milk, 389.
- Fischer, B., dimethyl ethyl carbinol, 1142.
- Fischer, B., and H. Wimmer, diazo-amido-compounds, 819.
- — hydroxyazo-compounds, 819.
- Fischer, E., action of aldehydes, anhydrides and diazo-compounds on the three methylindoles, 265.
- carbamide-derivatives of dibromopyruvic acid, 918.
- compounds of phenylhydrazine with sugars, 567.
- hydrazines, 138, 932.
- indoles from phenylhydrazine, 149.
- synthesis of indole-derivatives, 148.
- Fischer, E., and O. Knoevenagel, compounds of phenylhydrazine with aldehyde, mesityl oxide, and allyl bromide, 932.
- Fischer, E., and F. Penzoldt, sensitiveness of the sense of smell, 983.
- Fischer, E., and A. Steche, methylation of indole, 976.
- — methylation of indole-derivatives, 588.
- Fischer, E., and J. Tafel, oxidation of polyatomic alcohols, 651.
- Fischer, E., and P. Wagner, rosindoles, 588.
- Fischer, F., composition of generator gas and water gas, 1078.
- Fischer, H., working up of Stasfurth potash liquors containing a large excess of sodium chloride, 1079.
- Fischer, L. See Claisen.
- Fischer, O., ortho- and meta-quinoline-sulphonic acids, 601.
- Fischer, O., and E. Hepp, action of alcoholic hydrogen chloride on nitrosamines, 244.
- Fischer, O., and E. Hepp, azophenines and indulines, 1105.
- — nitrosamines, 729, 1114.
- Fischer, O., and H. van Loo, formation of  $\beta$ -diquinoline, 63.
- Fisher, J. H., corrosion of zinc by ammonium chloride and potassium nitrate, 889.
- Fittbogen and Salfeld, manuring with basic slag, 524.
- Fittica, F., a fourth monobromophenol and a second monobromobenzene, 134.
- Fittig, R., and C. Daimler, action of ethyl chloracetate and zinc on ethyl oxalate, 361.
- Flawitzky, F., conversion of dextro-rotatory terpene from Russian turpentine by means of hydration and dehydration, 968.
- relation between the boiling points of the monatomic alcohols and their constitutions, 879.
- Fleck, H., colour reactions of picric acid and dinitrocresol, 624.
- Fleischer, M., Brinckman, and others, manuring with basic slag and other phosphates, 524.
- Fleissner, F. See Lippmann.
- Flink, G., längbanite, 782.
- Flückiger, safrole, 990.
- Flückiger, F. A., iodine determination in Laminaria, 996.
- lithium carbonate, 1000.
- reaction of thiosulphates, 689.
- Flock, K. K., ignatieveite, 1085.
- Focke, separation of morphine and strychnine from fatty matters, 187.
- Focke, H., estimation of alkaline chlorides in potash, 1138.
- Fokker, fermentation by protoplasm from recently killed animals, 984.
- Folkard, C. W., bacteriological examination of water, 619.
- Forcrand. See De Forcrand.
- Formánek, J., solubility of lead chloride in solutions of mercuric chloride, 772.
- Forsling, S., Brönnér's  $\beta$ -naphthylaminesulphonic acid, 375.
- $\beta$ -naphthylaminesulphonic acids, 962.
- Fossek, W., carbonic anhydride in the air of schoolrooms, 888.
- Foussereau, G., decomposition of acetates by water, 767.
- decomposition of thiosulphates by acids, 883.
- effect of pressure on the decomposition of chlorides, 697.
- Fowler, G. J. See Bailey.
- Franchimont, A. P. N., action of nitric acid on bibasic acids, 466.

- Franchimont, A. P. N., and E. A. Klobbie, amides of ethylsulphonic acids, 468.
- Franke, B., action of sulphuric acid on potassium permanganate, 893.  
— hydroxylated solid hydrogen phosphide, 635.  
— manganese-compounds, 1016.  
— new gas burette, 687.
- Frankland, P. F., and J. Dingwall, decomposition of potassium chlorate and perchlorate by heat, TRANS., 274.
- Fraser, T. R., strophanthin, 1115.
- Freer, P. C., and W. H. Perkin, jun., action of ethylene bromide on the sodium-derivatives of ethyl acetacetate, benzoylacetate, and acetone-dicarboxylate, TRANS., 820.  
— — attempt to synthesise heptamethylene-derivatives, PROC., 96.  
— — synthesis of hexamethylene-derivatives, PROC., 96.
- Freer, P. C. See also Perkin.
- Fremy, artificial formation of rubies, 556.
- Fremy and Verneuil, action of fluorides on alumina, 556.
- Fresenius, H., analysis of the Schützenhof Quelle, Wiesbaden, 647.
- Fresenius, R., hot springs at Wiesbaden, 352.  
— preparation of hydrogen sulphide free from arsenic, 885.
- Freund, M., and W. Will, hydrastine and its derivatives, 383, 1057.  
— substances contained in the roots of *Hydrastis Canadensis*, 174.
- Fricke, determination of sulphuric acid in water, 862.
- Frickhinger, H., oxalic acid from the residue of *spiritus aetheris nitrosi*, 360.
- Friedel, C., crystalline form of quercin, 1026.
- Friedel, C., and J. M. Crafts, action of methyl chloride on *o*-dichlorobenzene in presence of aluminium chloride, 1101.  
— — action of methylene chloride on methylene benzene in presence of aluminium chloride, 1102.
- Friedheim, C. v. d. Pförtten's silver suboxide, 1079.  
— Weil's method for determining sulphides, 396, 749.
- Friedlander, P., and F. Müller, derivatives of pseudocarboxylic, 977.
- Friedrich, A. See Hazura.
- Friswell, R. J., and A. G. Green, relation of diazobenzeneanilide to amidoazobenzene, PROC., 26.
- Fröhlich. See Zincke.
- Fromme, C., electrolytic polarisation produced by feeble electromotive forces, 317, 541.
- Fromme, G., and R. Otto,  $\beta$ -dichloropropionic acid, 912.  
— — synthesis of xeric acid from  $\alpha$ -dibromo-normal-butyric acid, 917.
- Funaro, A., felspars from Elba, 560.

## G.

- Gabriel, S., formation of primary amines from the corresponding halogen-derivatives, 1037.  
— homologue of isoquinoline, 739.  
— homo-*o*-phthalimide and its derivatives, 50, 725, 1112.  
— isoquinoline and its derivatives, 61.
- Gabriel, S., and R. Otto, orthocyanotoluene, 1035.
- Gal, H., and E. Werner, heats of neutralisation of glyceric and camphoric acids, 205.  
— — heats of neutralisation of homologous and isomeric acids, 95.  
— — heats of neutralisation of malic and citric acids, 205.  
— — — heats of neutralisation of malonic, tartaric, and malic acids, 96.  
— — — heats of neutralisation of meconic and mellitic acids, 206.
- Gallois, E. See Adrian.
- Garnier, L., estimation of albuminoïds in liquids from cysts, &c., 872.  
— estimation of nitrogen in urine, 863.
- Garrod, A. B., place of origin of uric acid in the animal organism, 388.
- Gasiowski, K. See Dahm.
- Gassaud, organic nitrogen in chemical manures, 863.
- Gatenby, R., volumetric estimation of alumina, 865.
- Gattermann, L., and G. Schmidt, chloroformamide: synthesis of aromatic acids, 569.  
— — — preparation of alkylamidoformic chlorides and alkyl isocyanates, 358.
- Gaunersdorfer, J., poisoning of plants by lithium salts, 991.
- Gautier, F., influence of silicon on the condition of carbon in cast iron, 220.
- Gautier, H., chlorine-derivatives of acetophenone, 141.

- Gautier, H., influence of light and temperature on chlorination, 922.  
 Gawalovski, A., filters with greased edge, 295.  
 — separation of mineral oils from saponifiable fats, 1001.  
 Gayon, U., and E. Dubourg, alcoholic fermentation of dextrin and starch, 171.  
 Gayon, U., and G. Dupetit, method of preventing secondary fermentation, 171.  
 Gedölst, L., preparation of picrocarmine, 1117.  
 Gehring, G., aniline sebate and diphenylsebacamide, 822.  
 — butyl sebate, 801.  
 — octyl mono-, di-, and tri-chloroates, 653.  
 — perchloramyl and perchlorobutyl perchlorosebates, 801.  
 — sebaceodinitranilide, 935.  
 Genth, A., mineralogical notes, 342.  
 Georges, peptones in the blood and urine, 188.  
 Gerlach, G. T., boiling points of salt solutions, 1012.  
 Gerland, C. See Zincke.  
 Gernez, D., rotatory power of compounds formed in solutions of tartaric acid, 540.  
 Gerrard, A. W., strophanthus and strophanthin, 970.  
 Gerson, G., derivatives of pyruvic acid, 260.  
 Gessner, A. See Goldschmidt.  
 Geuther, A., arsenic, 888.  
 — bitter principle of calamus root, 972.  
 — constitution of ethyl propio-propionate, 915.  
 — polyiodides, 910.  
 Gibbs, W., complex inorganic acids, 113.  
 Gill, J. M., citric acid derivatives of paratoluidine, 40.  
 Gimbel, A., derivatives of dianthranyl, 1049.  
 — nitrosoanthrone, 675.  
 Gimbel, A. See also Liebermann.  
 Gintl, W., and L. Storch, econine, 682.  
 Girard, A., destruction of the nematoids of beetroot, 617.  
 — estimation of starch in potatoes, 868.  
 Girard, C., and L. L'Hôte, combination of aniline with chromic acid, 927.  
 Girard, C. See Muntz.  
 Giraud, H., physical peculiarity of tri-phenylguanidine, 366.  
 Giraud, H., volumetric estimation of antimony in presence of tin, 400.  
 Gladysz, T., preparation of calcium and potassium tartrates, 571.  
 Gläser, M., action of potassium permanganate on sodium thiosulphate, 336.  
 Goebel, H., estimation of morphine, 869.  
 Goessmann, C. A., analysis of onions, 1137.  
 Göttig, C., crystallisation of alkalis from alcohol, 889.  
 — hydrates of potassium hydroxide, 636.  
 — new hydrate of sodium hydroxide, 550.  
 — water of crystallisation of sodium monosulphide, 331.  
 Göttig, J. See Nietzki.  
 Götz, J., andalusite from Marabastad, Transvaal, 562.  
 Goldmann, F., action of bromine on anthranol, 1049.  
 Goldschmidt, H., absorption in the stomach of the horse, 743.  
 — camphoroxime-derivatives, 496.  
 — intestinal digestion in the horse, 610.  
 — reduction of aldoximes and acetoximes, 249, 568.  
 Goldschmidt, H., and A. Gessner, cumylamine, 1039.  
 Goldschmidt, H., and M. Höning, nitrochlorotoluene and chlorotoluidine, 363.  
 Goldschmidt, H., and E. Kissler, carvole-derivatives, 475, 923.  
 Goldschmidt, H., and N. Polonowska, anisamine, 1041.  
 — diphenylhydroxethylamine, 492.  
 Goldschmidt, H., and W. Schulteß, thiienethylamine, 718.  
 Goldschmidt, H., and J. Strauss, di-nitroso-orcinol and dinitrosoresorcinol, 808.  
 Goldschmiedt, G., new dimethoxy-quinoline, 1119.  
 — papaverine, 163.  
 Gonzalez, C., paratungstates, 895.  
 Gooch, F. A., separation and estimation of boric acid, 299.  
 — separation of sodium and potassium from lithium, magnesium, and calcium, 528.  
 George, A., artificial production of magnetite, 708.  
 — artificial zincite and willemite, 345.  
 — zinc ferrite: artificial formation of franklinite, 557.  
 Goske, A., synthesis of carbazole, 372.  
 Goske, A. See also Bernthsen.

- Gossart, the spheroidal state, 768.  
 Gossels, W., nitrates in animals and plants, 389.  
 Gouy, standard galvanic cell, 541.  
 Gouy and G. Chaperon, osmotic equilibrium and the concentration of solutions by gravitation, 1013.  
 Gowland, W., and Y. Koga, silver containing bismuth, TRANS., 410.  
 Gozdorf, G. A., assay of minute quantities of gold, 184.  
 Graebe, C., acenaphthene, 592.  
 — boiling points of diphenylamine and its homologues, 812.  
 — formula of diphenic acid, 589.  
 — tetrachlorophthalic acid, 832.  
 Graebe, C., and C. Aubin, condensation of diphenic and orthodiphenylcarboxylic acids, 589.  
 Graebe, C., and A. Feer, euxanthone-group, 152.  
 Graebe, C. See also Bohn.  
 Graetz, L., electrical conductivity of solids at high pressures, 5.  
 Graham, J. M. See Drake.  
 Gram, C., active principles of *Asclepias curassavica*, *A. incarnata*, and *Vincetoxicum officinalis*, 377.  
 — origin of ptomaines, 387.  
 Grassmann, P., loss occasioned by improper methods of pickling wheat, 293.  
 Gravill, E. D., estimation of ammonium carbonate in *spiritus ammoniacus aromaticus*, B.P., 398.  
 Gray, T., electrolysis of silver and copper: application of electrolysis to the standardising of electric current and potential meters, 315.  
 Green, A. G., and F. Evershed, volumetric estimation of nitrous acid, 396.  
 Green, A. G. See also Friswell.  
 Green, J. R., changes in the proteids of seeds during germination, 987.  
 Greenall, T. H. See Thorpe.  
 Gréhant and Quinquaud, formates in the organism, 513.  
 Griess, P., diazo-compounds, 817.  
 — meta- and para-hydroxynitrobenzoic acids, 485.  
 Griess, P., and G. Harrow, action of aromatic diamines on sugars, 475, 930.  
 Griessmayer, true nature of starch-cellulose, 686.  
 Griffith, A., detection of stannic sulphide in presence of antimonious sulphide, 183.  
 Griffiths, A. B., agricultural experiments with iron sulphate as a manure during 1886, TRANS., 215.
- Grimaldi, G. P., thermic expansions of liquids at various pressures, 626.  
 Grimaux, E., glyceraldehyde, 794.  
 Grimaux, E. and C. Cloez, erythrene bromides, 789.  
 — — erythrene-derivatives, 352.  
 Griner, G., isomeride of benzene, 1033.  
 Grocco, P., creatinine in urine, 513.  
 Gruber, M., culture of anaërobic bacteria: morphology of butyric fermentation, 1135.  
 Grüne, H., azo-opianic acid, 48.  
 Grünwald, A., chemical structure of oxygen and hydrogen and their dissociation in the sun's atmosphere, 1070.  
 Guareschi, I.,  $\gamma$ -dichloronaphthalene and chloronaphthalic acid, 837.  
 — strychninesulphonic acids, 853.  
 — Weyl's creatinine reaction, 1122.  
 Guareschi, I., and P. Biginelli, chlorobromonaphthalene, 1113.  
 Günther, F., iodoform and bromoform, 787.  
 Günther, M. See Elbs.  
 Guignet, C. E., crystallisation by diffusion, 101.  
 Guitermann, A. L., orthazoxytoluene, 932.  
 Guitermann, A. L. See also Nietzki.  
 Guntz, antimony tartrate, 657.  
 — heat of formation of tartar emetic, 544.  
 Gurlt, meteorite in a tertiary lignite, 22.  
 Guthzeit, M., and W. Epstein, action of phosphoric sulphide on ethyl dimethylpyronedicarboxylate, 920.  
 Guthzeit, M. See also Conrad.

## H.

- Habermann, J., electrolysis of carbon compounds, 94.  
 Haedicke, J., R. W. Bauer, and B. Tollens, galactose from Carragheen moss, 791.  
 Haedicke, J., and B. Tollens, formation of galactose and lævulose from raffinose, 791.  
 Haga, T., effects of dilution and the presence of sodium salts and carbonic anhydrides on the titration of hydroxylamine by iodine, TRANS., 794.  
 Haga, T. See also Divers.  
 Hagemann, G. A., avidity formula, 633.

- Hagenbach. See Nietzki.  
 Hager, H., butter testing, 309.  
 —— detection of arsenic, 397.  
 —— guaiacum resin, 752.  
 —— testing aluminium sulphate, 182.  
 —— use of copper containing arsenic for the dearsenification of hydrochloric acid: Reinsch's test for arsenic, 397.  
 Hall, J. A., some analogous phosphates, arsenates, and vanadates, *TRANS.*, 94.  
 —— some ethereal salts of vanadium acids, *TRANS.*, 751.  
 Haller, A., cyanacetophenone, 826.  
 —— ethyl cyanacetate, 797.  
 —— inactive borneols yielding active camphors, 1050.  
 —— isomeric camphols and camphors, 375.  
 —— preparation of ethyl cyanomalonate and ethyl benzoylcyanacetate, 1030.  
 —— racemic camphol and its derivatives, 1050.  
 Haller, A., and G. Arth, ethyl succinimidoacetate and camphorimidoacetate, 1031.  
 Haller, A., and A. Held, ethyl aceto-cyanacetate, 799, 1029.  
 Halliburton, W. D., muscle plasma, 984.  
 —— proteids of cerebrospinal fluid, 614.  
 Hanriot, anemonin, 843.  
 Hanriot, M., and C. Richet, estimation of the carbonic anhydride expired and the oxygen absorbed in respiration, 507.  
 —— —— relation between muscular activity and the chemical effect of respiration, 1058.  
 Hanssen, A., action of carbonyl chloride on ethylene- and trimethylene-diphenyldiamine, 577.  
 —— constitution of brucine, 505.  
 Hantzsch, A., constitution of quinone derivatives, 719.  
 —— furfuran-derivatives from resorcinol, 262.  
 Hantzsch, A., and K. Schniter, action of chlorine and bromine on pyrogallol, 925.  
 —— —— constitution of chlor- and brom-anilic acids, 1036.  
 Hantzsch, A., and C. Wohlbrück, ethyl propiopropionate, 717.  
 Hantzsch, A., and A. Zeckendorf, derivatives of ethyl quinone-para-dicarboxylate, 727.  
 Hantzsch, A., and H. Zürcher, polycoumarins, 830.  
 Hardaway, H., analysis of shot, 416.
- Harden, A., action of silicon tetrachloride on the aromatic amido-compounds, *TRANS.*, 40.  
 Harding, S. L., sodium dichromate cell, 412.  
 Hardy and Calmels, synthesis of pilocarpine, 1057.  
 Harper, D. N. See Penfield.  
 Harrison, G., mirror amalgam, 447.  
 Harrow, G. See Griess.  
 Hart, W. B. See Smith.  
 Hartley, W. N., constitution of the double chromic oxalates, *PROC.*, 4.  
 —— relation between the molecular structure of carbon compounds and their absorption spectra. VIII. A study of coloured substances and dyes, *TRANS.*, 152.  
 —— spectroscopic notes on the carbohydrates and albuminoïds from grain, *TRANS.*, 58.  
 Hartog, P. J., sulphites, 886.  
 Harvey, S., conversion of starch into glucose by means of hydrochloric acid, 125.  
 —— estimation of nitrates in water, 184.  
 Hasebroek, K., action of hydrogen peroxide on bismuth salts, 340.  
 —— a first product of gastric digestion, 609.  
 Haseloff, E. See Roser.  
 Haslam, A. R. See Anschütz.  
 Hausdörfer, A. See Bischoff.  
 Haushofer, K., microchemical tests, 301.  
 —— microscopical analysis, 300.  
 Hautefeuille, P., and J. Marrottet, hydrated silicon phosphate, 329.  
 Hautefeuille, P., and L. P. de Saint-Gilles, artificial production of micas, 560.  
 Hazura, K., acid from hemp-seed oil, 799.  
 —— acids from drying oils, 359, 913.  
 Hazura, K., and A. Friedrich, acids from drying oils, 798.  
 Headden, W. P., columbite from Colorado, 347.  
 Hecht, H., action of monamines on citric acid, 154.  
 Hehner, O., estimation of glycerol and its non-volatility with aqueous vapour, 1143.  
 —— estimation of methyl alcohol in presence of ethyl alcohol, 1142.  
 Heidelberg, T., ortho- and para-chlorodimethylaniline, 474.  
 Heisch, C., analysis of pepper, 312.  
 Helbing, H., reaction of strophanthin, 1001.  
 Held, A. See Haller.

- Helmers, O., additive products of aromatic thiocarbimides, 581.  
 Hemilian, W., diphenylmetaxylmethane and diphenylorthoxylmethane, 266.  
 Hempel, W., a gas burette which is independent of atmospheric pressure and temperature, 1062.  
 —— percentage of oxygen in air, 885.  
 —— source of error in gas analysis, 1062.  
 Henderson, G. G., action of triphenylmethyl bromide on ethyl sodiomalonate, TRANS., 224.  
 —— ethyl triphenylcarbinylmalonate :  $\beta$ -triphenylpropionic acid, 671.  
 Henke, G., milky juice of certain Euphorbiaceæ, 72.  
 Hénocque, hematoscopy : a new method of blood analysis, 312.  
 Henry, L., cyanacetic acid, 796.  
 —— determination of the relative value of the four units of activity in the carbon-atom, 711.  
 —— synthetical acetic acid and its derivatives, 796.  
 —— synthetical acetonitrile, 712.  
 —— volatility of methane-derivatives, 24.  
 Henschke, A., chelidoneine, chelerythrine, and sanguinarine, 854.  
 Hengsen, C., ammoniomercuric chromates, 218.  
 Hentschel, W.,aconitic acid, 467.  
 —— chlorinated methyl formates, 1099.  
 —— derivatives of chlorinated methyl formate, 1027.  
 —— derivatives of methyl carbanilate, 143.  
 Henzold, O., frozen milk, 745.  
 Hepburn, G., griqualandite, 709.  
 Hepp, E. See Fischer.  
 Hermann, A., digestion of fibrin by trypsin, 1130.  
 Herrmann, O. See Leuckart.  
 Herz, J., detection of alum in flour, 530.  
 —— detection of artificially coloured red wine, 91.  
 Herzberg, W. See Stohmann.  
 Herzel, H. See Claus.  
 Herzfeld, A., estimation of carbon in the organic constituents of water, 184.  
 —— estimation of invert sugar, 185.  
 Herzig, J., isodulcitol, 906.  
 Hesse, O., alkaloids of the Berberideæ, 283.  
 —— alkaloids of coca leaves, 1125.  
 —— China bicolor, 76.  
 —— cinchol, 58.  
 —— estimation of quinine sulphate, 1145.  
 Hesse, O., normal quinine chromate, 404.  
 —— pseudomorphine, 163.  
 Heumann, K., and L. Oeconomides, action of phenol on diazoamidobenzene, 480.  
 —— reaction of diazoamido-compounds with phenols, 664.  
 Heumann, K., and J. Wiernik, di-phenylethane-derivatives, 673.  
 —— phenyl-derivatives of ethane, 1039.  
 Heumann, K. See also Mentha.  
 Heyer, C., estimation of water in strontia dihydrate, 217.  
 —— strontia dihydrate, 108.  
 Heymann, B., and W. Koenigs, oxidation of homologues of phenol, 241, 1035.  
 Hidden, W. E., new meteoric iron from Texas, 119.  
 —— phenacite from Colorado, 118.  
 —— remarkable crystal of herderite, 117.  
 —— the Mazapil meteoric iron, 564.  
 —— twin crystals of molybdenite, 116.  
 Hidden, W. E., and A. Des Cloizeaux, North Carolina mineral localities, 118.  
 Hill, H. B., and L. L. Jackson, chloropyromucic acid, 469.  
 Hillebrand, W. F., emmonsite, an iron telluride, 344.  
 Hillebrand, W. F. See also Cross.  
 Hillyer, H. W. See Remsen.  
 Hinsberg, O., action of monatomic aldehydes of the fatty series on meta-paratoluylenediamine, 816.  
 —— action of orthotoluylenediamine on dextrose, 476.  
 —— nomenclature of the quinoxaline series, 382.  
 —— zirconium, 896.  
 Hirsch, R., chloro-nitro-derivatives of the aromatic series, 834.  
 Hirschler, A., lactic acid in animals, 167.  
 —— separation of nitrogenous substances by means of phosphomolybdic acid, 310.  
 Hirzel, H. See Claus.  
 Hockauf, J., botryogene, 21.  
 Höland, R., substitution-derivatives from methylene chloride, 905.  
 Höning, M., nitrochlorotoluenes and chlorotoluidines, 1034.  
 Höning, M., and S. Schubert, carbohydrates, 125.  
 Höning, M. See also Goldschmidt.  
 Hötte, B., action of phenylhydrazine on anhydrides of bibasic acids, 669.  
 Hoffmann, A., compound of pyrotartaric acid with hippuric acid, 44.

- Hoffmann, C., action of hydroxyl-amine on acetamide, 911.  
 Hoffmann, C. See also Möhlau.  
 Hoffmann, L., and G. Krüss, gold sulphides, 1019.  
 Hofmann, A. W., amidonaphthyl mercaptans, 839.  
 — orthamidophenyl mercaptan, 823, 1039.  
 — quinoline-red, 380.  
 Hofmeister. See also Ellenberger.  
 Holden, E. L. See Hutchins.  
 Holdermann, E., estimation of sodium and lithium, 864.  
 Holland, P., determination of alkalis in silicates, 181.  
 — quartzite, 451.  
 Holst and Beckurts, strychnine and brucine ferro- and ferri-cyanides, 852.  
 Holzmann, E., thio-derivatives of diethylaniline and dimethylaniline, 728.  
 Hood, J. J., preparation of ammonium dichromate, 449.  
 — theory of fractional precipitation, 325.  
 Hoogewerff, S., and W. A. van Dorp, benzylamine and phenylethylamine, 245.  
 — — isoquinoline and its derivatives, 505.  
 Hooper, D., ash of cinchona barks, 394.  
 Hoppe-Seyler, F., estimating hydrogen in the presence of methane, 618.  
 — methane fermentation of acetic acid, 1135.  
 Hoppe-Seyler, G., discriminating between chrysophanic acid and santonin colouring matters in urine, 406.  
 Horbaczewski, J., synthesis and constitution of uric acid, 918.  
 Horstmann, A., molecular volumes, 545.  
 Horvat, V., dry distillation of starch with lime, 460.  
 Hote. See L'Hote.  
 Hotter, E., synthesis of phenylaceturic acid, 368.  
 Howard, W. C., separation of hygrine from cocaine, 1126.  
 Hughes, J., analysis of hoofs and horns, 408.  
 Hugounenq, L., chlorine-derivatives of anisoil, 923.  
 — laevorotatory  $\beta$ -hydroxybutyric acid in the blood of a diabetic patient, 986.  
 Hugounenq. See also Cazeneuve.  
 Hunt, T. S., integral weights in chemistry, 1077.  
 — law of volumes in chemistry, 99.  
 Huntington, O. W., Coahuila meteorites, 455.  
 — crystalline structure of iron meteorites, 119.  
 Hurst, S. H., algaborilla, 498.  
 Hussak, E., granular limestone of Stainz in Styria, 780.  
 Hutchings, W. M., analysis of silicates, 181.  
 Hutchins, C. C., and E. L. Holden, existence of certain elements and discovery of platinum in the sun, 1065.  
 Hutchins, C. C. See also Trowbridge.

## I.

- Igelström, L. J., braunite from Jacobsberg, Wermaland, 643.  
 — hämotostibite from Örebo, 645.  
 — minerals from the Sjö Mine, Sweden, 902.  
 — polyarsenite, 346.  
 Ihl, A., colour reactions of beet-sugar, 534.  
 — colour reactions of starch and gum, 534.  
 Ince, W. H., ferric chloride as a test for organic substances, 400.  
 Irish, P. H. See Buchka.  
 Isbert, A., estimation of phosphoric acid, 526.

## J.

- Jackson, C. L., and A. M. Comey, action of silicon fluoride on organic bases, 243.  
 Jackson, C. L., and G. W. Rolfe, quantitative determination of hydroxyl, 749.  
 Jackson, C. L., and J. F. Wing, conversion of aromatic sulphonates into amido-compounds, 727.  
 — — dimethylbenzylamine, 721.  
 Jackson, L. L. See Hill.  
 Jacobsen, O., action of sulphuric acid on pentamethylbenzene, 660.  
 — ethylxylenes, 37.  
 — hemellithene, 36.  
 — hydrocarbons from tar oils boiling between 170° and 200°, 35.  
 — purification of hydrogen sulphide from hydrogen arsenide, 885.  
 Jacobsen, O., and W. Deike, synthesis of hemellithene, 659.  
 Jacobson, P., orthamidated aromatic ketones, 961.  
 Jacobson, W. See Dragendorff.  
 Jaffé, M., and R. Cohn, behaviour of

- furfuraldehyde in the animal organism, 1032.
- Jahoda, R., papaverine salts, 164.
- James, J. W., action of chlorine on methyl thiocyanate, *TRANS.*, 268.  
— formation of ethyl cyanacetoacetate, *TRANS.*, 287.
- Jandrier, E., nitroacenaphthene, 964.
- Janeček, G., determination of atomic weight from specific heat, 419.
- Jannasch, P., heulandite, 903.  
— new analyses of Norwegian rocks, 562.  
— strontia in heulandite, 453.
- Jannettaz, E., buratite from Laurium, 644.
- Janovsky, J. V., azo-compounds, 663.
- Janovsky, J. V., and L. Erb, direct substitution products of parazotoluene: hydrazobromobenzenes: hydrabromotoluenes, 479.  
— — — halogen-derivatives of azobenzene and hydrazobenzene, 478.
- Japp, F. R., diphenylglyoxaline and methyldiphenylglyoxaline, *TRANS.*, 557.
- Japp, F. R., and C. I. Burton, anhydacetonebenzil, *TRANS.*, 420.  
— — — azines, *TRANS.*, 98.  
— — — condensation compounds of benzil with ketones, *TRANS.*, 431.
- Japp, F. R., and E. Cleminshaw, constitution of glycosine, *TRANS.*, 552.
- Japp, F. R., and N. H. J. Miller, preparation and hydrolysis of hydrocyanides of the diketones, *TRANS.*, 29.
- Jawein, L., crystalline compound from Kamala, 498.
- Jedlička, K. See Levy.
- Jehn, C., action of polyatomic alcohols on solutions of boric acid and hydrogen sodium carbonate, 790.
- Jeller, R. See Donath.
- Jensch, E., composition of some ancient ceramics from Brandenburg, 218.  
— tetracalcium phosphate and basic converter slag, 216.
- Jentys, S., intramolecular respiration of plants, 686.
- Jodin, V., action of mercurial vapour on leaves, 395.
- Jørgensen, S. M., cobaltammonium compounds, 775.  
— nitratopurpleorhodium salts, 114.  
— roseorhodium salts, 113.  
— xanthorhodium salts, 114.
- Joffre, J., agricultural value of retrograde phosphates, 81.
- Johnstone, W., Flitwick water, 1087.
- Jolin, S., the acids of pig's bile, 742.
- Jolles, A., new chloroform reaction, 866.
- Joly, A., bimetallic phosphates, 214.  
— double phosphates and arsenates of strontium and sodium, 637.  
— silver phosphates and arsenates, 215.  
— thermochemistry of bibasic phosphates and their congeners, 202.  
— trimetallic phosphates, 877.
- Jones, E. L., specific gravity of human blood, 608.
- Julius, P., employment of Congo-red in titrating aniline, 90.  
— new diamidodinaphthyl, 56.
- Jungfleisch, E., quinine sulphate, 405.

## K.

- Kahlbaum, G. W. A., apparatus for measuring the tension of vapours, 207.  
— boiling points of the fatty acids  $C_2H_4O_2$  to  $C_5H_{10}O_2$ , 207.  
— influence of atmospheric pressure on boiling point, 206.  
— temperature regulator, 206.
- Kaiser and Schmieder, changes in milk by freezing, 745.
- Kalecsinszky, A., native gold from Thibet, 780.
- Kalischer M., new secondary element, 314.
- Kalischer, S., electromotive force produced by light in selenium, 693.
- Kalmann, W., standardising iodine solutions: estimating sulphurous acid in presence of thiosulphuric acid, 618.
- Kalmann, W., and J. Spüller, examination of crude soda lyes and red liquors, 1063.
- Kappel, S., formation of nitrites, 106.
- Karcz, M., glyoxalenanthyline and its derivatives, 911.
- Kassner, G., lactucerin, 605.  
— solanine, 860.
- Kast, A., aromatic products of putrefaction in human sweat, 1132.  
— fate of certain chlorine compounds in the organism, 612.
- Kauder, E., cryptopine, 1122.
- Kaufmann. See Chauveau.
- Kehrmann, F., new class of cobaltic salts, 220.  
— phosphotungstic acids, 777.  
— potassium manganic oxalate, 800.  
— separation of phosphoric acid from tungstic acid, 866.  
— structure of complex inorganic acids, 777.

- Kehrmann, F. See also Nietzki.  
 Keiser, E. H., action of chlorine on pyridine, 277.  
 — combustion of weighed amounts of hydrogen: atomic weight of oxygen, 1078.  
 — new pyrometer, 1073.  
 Kelbe, W., and N., v., Czarnomski, action of bromine and water on  $\alpha$ -metaisocymenesulphonic acid: constitution of  $\alpha$ - and  $\beta$ -metaisocymenesulphonic acids, 147.  
 Kellner, O., and others, absorption by soils, 76.  
 — composition of tea-leaves, 73.  
 — estimation of absorbed bases in soils, 77.  
 — feeding and development of silk-worms, 68.  
 — behaviour of urea in soils, 524.  
 Kerner, G., and A. Weller, testing quinine sulphate, 1146.  
 Ketteler, E., dispersion in rock-salt, 754.  
 Kickelhayn. See Claus.  
 Kiliani, H., action of sodium amalgam on arabinose, 714.  
 — arabinose, 229.  
 — arabinosecarboxylic acid and arabinose, 465.  
 Kimmins, C. W., periodates, TRANS., 356.  
 Kinch, E., the amount of chlorine in rain-water collected at Cirencester, TRANS., 92.  
 — plattnerite, 451.  
 Kinch, E., F. H. Butler, and H. A. Miers, new variety of dufrenite from Cornwall, 451.  
 Kinkelini, F. See Miller.  
 Kipping, F. S., synthetical formation of closed carbon-chains in the aromatic series, PROC., 98.  
 Kircher, G., tetrachlororthobenzoylbenzoic acid, 831.  
 Kissler, E. See Goldschmidt.  
 Klason, P., action of acids on thiocyanic acid, 1025.  
 — action of chlorine on carbon bisulphide, and of sulphur on carbon tetrachloride, 1015.  
 — carbon oxysulphide, 1015.  
 — estimation of thiocyanic acid, 1144.  
 — free thiocyanic and cyanuric acids and their compounds with ethers and alcohols, 789.  
 — substitution of amidogen by hydrothionyl and oxysulphuryl groups, 478.  
 — sugar formed in the inversion of lichens, 25.  
 — synthesis of cyanphenin, 363.
- Klason, P., thio-derivatives of ethyl carbonate, 1029.  
 — toluenedisulphonic acids, 264, 491.  
 Kleemann, S., reduction of nitro-organic acid, 584.  
 Kleemann, S. See also Liebermann.  
 Klein, J., estimation of formic acid and of organic matter in water, 1000.  
 Klien, composition of barley and pease, 73.  
 Klobbie, E. A. See Franchimont.  
 Klobukoff, N. v., new apparatus for electrochemical investigations, 200.  
 Klotz, C. See Knorr.  
 Knapp, F., formation of ultramarine in the wet way, 110.  
 Kniesche, T., tungsten, 14.  
 Knoevenagel, O. See Fischer.  
 Knop, A., biotite, 646.  
 — crystallised niobic anhydride, 642.  
 — peridote of Schelinger Matten, 1086.  
 — pseudobiotite, 646.  
 Knop, W., determination of ammonia in arable soil, 297.  
 Knorr, L., cinnamylhydrazine, 665.  
 — correction: action of ethyl acetacetate on orthophenylenediamine, 247.  
 — pyrazole-derivatives, 678.  
 — synthesis of quinoline-derivatives, 847.  
 — synthetical experiments by means of ethyl acetacetate, 159, 275, 601.  
 Knorr, L., and C. Klotz, pyrazoline-derivatives from ethyl benzoylacetate, 1121.  
 — — — reduction of hydroxylepidine and methylepidone, 278.  
 Knorre, G. v., employment of nitroso- $\alpha$ -naphthol in quantitative analysis, 530.  
 Kobb, G. J., spectrum of germanium, 313.  
 Kober, croton oil, 798.  
 Koch, E., behaviour of tertiary amines towards nitrous acid, 1041.  
 — butylchloral hydrate and chloral hydrate as antidotes for strychnine and picrotoxin, 391.  
 Koch, F. See Curtius.  
 Koch, R., determination of the free acid in tannin liquor by titration, 871, 1144.  
 Kochs, W., determination of sulphur in albuminoïds, 396.  
 Kock, E., formation of haloid substitution-derivatives of amido-compounds by the reduction of nitro-derivatives of hydrocarbons, 810.  
 — triphenylmethane-derivatives, 836.  
 Köbrich, A., determination of organic matter in natural water, 533.

- Köhler, A., nitro-derivatives of methyluracil, 128.
- König, G. A., manganese-zinc serpentine from Franklin, New Jersey, 646.  
— stromeyerite, from Mexico, 643.
- König, J., composition of the inner brown skin of the earth nut, 519.
- Koenigs, W. See Comstock, Heymann.
- Koenigs, W., and J. U. Nef, 4'-phenylquinoline and the derived diquinolyls, 599.
- Körner, G., and A. Menozzi, action of ammonia on ethyl bromosuccinate, 1031.  
— — —  $\alpha$ -amidoisoscuccinic acid, 801.  
— — — transformation of fumaric and maleic acids into aspartic acid and asparagine, 1100.
- Körner, M., derivatives of benzoylorthamidobenzamide, 1044.
- Koga, Y. See Gowland.
- Kohner, A., determination of cadmium and its separation from copper, 398.
- Kokscharoff, N. J. v., turquoise from the Kirghis Steppes, 1021.
- Koláček, F., alteration of freezing points, 879.
- Koninck. See De Koninck.
- Kostanecki, S. v., formation of euxanthic acid, 272.  
— synthesis of  $\beta$ -orcinoil, 39.
- Kostanecki, S. v. See also Liebermann.
- Kostiurina, S., action of pepsin on amyloid, 506.
- Koto, B., glaucophane, 1086.  
— Japanese rocks, 564.
- Kowalewsky, N., formation of methæmoglobin in blood by the action of alloxantin, 508.
- Kraemer, G., and W. Böttcher, the relation between petroleum and the hydrocarbons of coal-tar and shale-tar, 648.
- Krafft, F., benzene-derivatives of high molecular weight, 252.
- Krasser, F., presence of albumin in vegetable tissues: microchemical test for albuminoïds, 407.
- Kraus, J., so-called soluble starch, 173.
- Kraut, K., oxidation of ammonia in presence of platinum or palladium, 635.
- Krekeler, K., action of sulphuric acid on aromatic ketones, 141.  
— pentathiophen-group, 239.
- Kremp, manurial experiments with various phosphates, 1137.
- Kretschmar, M., detection of boron in milk, &c., 864.
- Kretschmar, M., estimation of fat, 402.  
— estimation of potassium in ashes and minerals, 864.
- Kreusler, U., amount of oxygen in the atmosphere, 634.  
— is nitric acid formed in the organism of higher plants? 686.  
— observations on the growth of potatoes, 71.
- Krosberg, K. See Claus.
- Krouchkoll, polarisation of copper, 757.
- Krüger, F., absorption of light by oxyhaemoglobin, 1126.
- Krüss, G., atomic weight of gold, 340, 1019.  
— gold, 450, 554, 778.  
— gold oxides, 15.  
— sublimed auric chloride, 341.  
— universal spectroscope, 179.
- Krüss, G., and L. F. Nilson, components of the rare earths yielding absorption spectra, 890.  
— — — earths and niobic acid from fergusonite, 706.  
— — — equivalent and atomic weight of thorium, 704.  
— — — potassium germanium fluoride, 704.  
— — — reduction of potassium niobium fluoride with sodium, 706.
- Krüss, G., and H. Solereder, reduction of inorganic sulpho-salts by hydrogen, 111.
- Krüss, G. See also Hoffmann.
- Kubel, W., preparation of lead carbonate, 446.
- Külz, E., active  $\beta$ -hydroxybutyric acid, 290.  
— decomposition of bromides and iodides by the stomach, 508.  
— Indian-yellow and glycuronic acid, 498.
- Külz, R., gases of parotid saliva, 287.
- Kues, W., and C. Paal, diketonic acids, 261.  
— — — synthesis of  $\alpha$ -phenylthiophen, 238.
- Küttner, P. See Claus.
- Kuhara, M., orthotolylphthalimide, 586.
- Kuhlmann, E., determination of normal carbonates in "bicarbonates," 528.
- Kunz, G. F., meteoric iron from Augusta Co., Virginia, 454.  
— meteoric iron from Glorieta Mt., New Mexico, 120.  
— meteorites from Kentucky and Mexico, 564.
- Kunz, H., emetine, 980.

Kupferschlaeger, titration of zinc powder, 865.

## L.

La Coste, W., and F. Valeur, derivatives of  $\alpha$ -quinolinedisulphonic acid, 973.

— quinolinedisulphonic acids and their derivatives, 379.

Lacre. See De Lacre.

Lacroix, A., critical examination of some minerals, 350.

— lammelar thomsonite, 350.

— plumbocalcite from Wenlock Head, 557.

— white epidote from the Beagle Canal, Terra del Fuego, 350.

Ladd, E. F., pepsin *versus* animal digestion, 513.

Ladenburg, A., cinnamene of the pyridine series, 737.

— constitution of benzene, 362.

— constitution of tropine, 740.

— formation of pyrrolidine, 1052.

— identity of cadaverine with pentamethylenediamine, 125, 1057.

— piperidine bases, 64.

— piperidine series, 740.

— pyridine bases, 59.

— pyrrolidine, 499.

— specific rotation of piperidine bases, 164, 282.

— synthesis of active conine, 160.

Ladenburg A., and F. Peterson, duboisine, 740.

Ladenburg, A., and C. F. Roth, bases from animal oil, 157.

Lafont, J., action of glacial acetic acid on levogyrate camphene, 969.

Lafont, J. See also Bouchardat.

Laible, estimation of phosphoric acid, 526.

Landero. See De Landero.

Landsberg, L., preparation of vanillin, 483.

Landwehr, H. A., animal gum, 26.

— free hydrochloric acid of the gastric juice, 287.

— precipitation of dextrin by iron, 401.

— reagent for the hydroxyl-group, 124.

Lang, E., action of zinc alkyl compounds on ethyl malonate, 261.

— decomposition of ethyl acetomalonate and its homologues, 717.

— furfuran-derivatives from phloroglucinol, 262.

Lange, G. See Cahn, Lellmann.

Langeli, T., trimethylpropylammonium iodide and hydroxide, 461.

Langlois, M., specific heats of liquids, 419.

Lasser-Cohn, sodium and potassium ethyl tartrates, 918.

Latschinoff, P., bile acids, 682.

— crystalline form of choleic acid, 683.

Laube, G., decolorising power of bone-black, 619.

Laugier, P., action of selenious acid on manganese dioxide, 775.

Laurent, E., the bacillus of panary fermentation, 70.

Laurie, A. P., electromotive force of a constant cell with moving plates, 314.

— electromotive force of a voltaic cell having an aluminium plate as electrode, 315.

Laurie, A. P. See also Thorpe.

Lawson, A. T. See Zincne.

Le Bel, J. A., Russian petroleum, 225.

Lebensbaum, M., amount of oxygen taken up in the decomposition of haemoglobin into albumin and haematin, 854.

Lechartier, G., cider ash, 520.

Le Chatelier, H., action of heat on clays, 785.

— constitution of clays, 785.

— laws of solution, 548.

— thermodynamics and chemistry, 431.

Lederer, G. See Curtius.

Ledroit, J. M., so-called trachyte-dolerites of the Vogelsberg, 904.

Legler, L., estimation of glycerol in fermented liquids, 1142.

Lehmann, F. See Pfeiffer, Wallach.

Leighton, G. W., crystalline scale formed in the manufacture of sodium hydrogen carbonate, 108.

— mica from Leon Co., Texas, 119.

Leitgeb, H., crystalline deposits in dahlia tubers, 1136.

Leko, M. T., thiophen in aniline, 471.

Lellmann, E., existence of two series of 4-(ana) derivatives of quinoline, 973.

— phenylpiperidine, 604.

— preparation of  $\beta$ -nitronaphthalene, 590.

Lellmann, E., and H. Alt, quinoline, 502.

Lellmann, E., and O. Bonhöffer, introduction of carboxyl into aromatic derivatives by the action of diphenylcarbamide chloride, 935.

— — — introduction of carboxyl into aromatic hydrocarbons, 254.

- Lellmann, E., and G. Lange, quinoline, 737.  
 Lellmann, E., and C. Schleich, nitrobenzyl-derivatives of ethyl malonate, 490.  
 Lemoine, G., influence of heat on the decomposition of oxalic acid by ferric chloride, 324.  
 Le Nobel, C., action of reducing agents on haematin: presence of products of reduction in pathologic urine, 1127.  
 Lenz, W., testing indigo dyes on fabrics, 1147.  
 Leo, H., reducing substance in diabetic urine, 513.  
 — trypsin in urine, 69.  
 Leone, T., changes induced in water by the development of bacteria, 615.  
 Leone, T., and A. Longi, properties of olive, sesame, and cotton oils, 536.  
 Lepetit, R., pyridine-derivatives from metanitrobenzaldehyde, 1053.  
 — reaction of nitrobenzaldehydes with ethyl acetoacetate and ammonia, 845.  
 Lereh, J. Z., red dye from chloral hydrate, 793.  
 Le Royer, A.,  $\beta$ -dichlorophthalic acid, 831.  
 Lescoeur, H., dissociation of hydrated oxalic acid, 915.  
 — hydrates of barium chloride, 766.  
 — hydrates of sodium arsenate, 698.  
 — the relation between the efflorescence and deliquescence of salts and the maximum vapour-tensions of their saturated solutions, 208.  
 — vapour-tension of sodium acetate, 322.  
 — velocity of dissociation, 100.  
 Lesseps. See De Lesseps.  
 Leuckart, R., carveol, borneol, and menthol, 376.  
 Leuckart, R., and E. Bach, bornylamine, 376.  
 Leuckart, R., and A. Herrmann, nitrotolylglycine and oxydihydrotoluquinoxaline, 383.  
 Levallois, A., characteristics of olive oil, 535.  
 Levi, L. E., thiophen-green, 481.  
 Lévy, L., colour reactions of arsenic, arsenious, vanadic, and molybdic anhydrides, and of antimony and bismuth oxides, 305.  
 — colour reactions of titanic, niobic, tantalic, and stannic anhydrides, 304.  
 — estimation of titanic acid, 1064.  
 Levy, S., and K. Jedlička, action of bromine on bromanilic and chloranilic acids, 1106.  
 Lewy, L., aniline and its homologues, 184.  
 Leybold, W., burette jet, 688.  
 L'Hôte, L., detection and estimation of aluminium in wine and in grapes, 690.  
 — detection and estimation of vanadium in minerals, 690.  
 L'Hôte, L. See also Girard.  
 Liborius, P., bacterial life in relation to oxygen, 291.  
 Liebermann, C., constitution of azo-opianic acid, 257.  
 — derivatives of opianic acid, 45.  
 — isomeride of hemipiminimide, 258.  
 Liebermann, C., and O. Bergami, cocceryl alcohol and coccerylic acid, 650.  
 — — — ruberythric acid, 1051.  
 Liebermann, C., and A. Gimbel, preparation of anthranol and di-anthryl, 965.  
 Liebermann, C., and S. Kleemann, etherification of opianic acid, 584.  
 — — — opianic acid-derivatives, 47.  
 Liebermann, C., and S. v. Kostanecki, spectra of the methyl-derivatives of hydroxyanthraquinone, 1.  
 Liebermann, C., and M. Römer, alkannin, 1051.  
 Liebermann, C., and P. Seidler, opiaurin, 580.  
 Liebermann, C., and W. Wense, hydroxyanthraquinone dyes, 593.  
 Liebermann, C., and O. N. Witt, azines of chrysocoumarin, 1049.  
 Liebermann, L., detection of albumin in urine, 1150.  
 Liebmann, A., and Studer, detection of rosaniline salts, 405.  
 Liebrecht, A., reduction of nicotine, 161.  
 Liebrecht, A. See also Einhorn.  
 Lischütz, J. See Pinner.  
 Limpach, L. See Conrad.  
 Limpricht, H., sulphazides, 728.  
 Linck, G., crystallography of cadmium borotungstate, 334.  
 Linde, O., estimation of hydrocyanic acid, 1143.  
 Lindet, L., action of alcohols on auro-phosphorous chloride, 227.  
 Lindo, new sugar reactions, 751.  
 Lindström, G., copper mineral from Sunnerskog, Sweden, 343.  
 — phosphoric anhydride in felspar, 347.  
 Ling, A. R., isomeric change in the phenol series, TRANS., 147, 782.  
 Linn, F. See Morse.  
 Linossier, G., compound of haematin with nitric oxide, 854.  
 Lintner, C. J., diastase, 165.  
 Lipp, A., para- and ortho-nitrophenyl-oxyacrylic acid, 142.

- Lipp, A., tetrahydropicoline, 277.  
 Lippmann, E., dehydrogenation by means of benzoic peroxide, 151.  
 Lippmann, E., and F. Fleissner, synthesis of hydroxyquinolinecarboxylic acid, 63, 1119.  
 Lippmann, E. O. v., a new galactan: properties of galactose, 652.  
 Lipski, A. A., comparative estimation of preparations of pepsin, 66.  
 List, E., organic and inorganic constituents of grapes, 860.  
 List, R., action of thiocarbamide on ethyl acetoacetate, 127.  
 List, R. See also Fahlberg.  
 Livermore, W. D. See Norton.  
 Liweh, T., conyrine platinochloride, 383.  
 — 2 : 6 dimethylpyridine platinochloride, 378.  
 Lloyd, J. V., asiminine, 981.  
 Lloyd, R., conversion of the higher homologues of phenol into amines, 721.  
 Locher, M. See Ziegler.  
 Lodter, W. See Bamberger.  
 Loeb, M., amidine-derivatives, 42.  
 Loebisch, W. F., and P. Schoop, strychnine, 282.  
 Lösch, A., theïne estimation, 1002.  
 Lösch, A. A., brucite from the Ural, 345.  
 Loew, O., catalytic actions, 440.  
 — diastase, 387.  
 — formose, 459.  
 Loges, G., determination of phosphoric acid in basic slag, 527.  
 Lommel, E., phosphorescence, 410.  
 Longi, A. See Leone.  
 Lopatine, N., action of aniline on ethyl dibromosuccinate, 1046.  
 Lory, C., microscopic crystals of albite in calcareous rocks of the Western Alps, 1023.  
 Losanitsch, S. M., mineral waters from Servia, 648.  
 Louguinine. See Berthelot.  
 Lowe, C. W., dibenzyl ether, TRANS., 700.  
 Lowmann, O. See Claisen.  
 Luckow, C., separation of metals by oxalic acid, 529.  
 Ludwig, E., and G. Tschermak, meteorite from Angra dos Reis, 1087.  
 Lüdecke, O., crystallography of some polyiodides, 910.  
 — minerals from the Stassfurt salt mines, 1085.  
 Lüdeking, C., post-mortem detection of chloroform, 305.  
 Lunge, G., analysis of explosives, 86.  
 — conversion of calcium hypochlorite into calcium chlorate, 11.  
 — detection of nitrogen compounds in seleniferous sulphuric acid, 998.  
 Lunge, G., and J. Rosenberg, coal-tar lutidines, 449.  
 Lunge, G., and R. Schoch, action of ammonia on bleaching powder, 700.  
 Lunge, M. See Cahn.  
 Luvini, J., electrical conductivity of gases and vapours, 4.  
 Luzzato, E., antimonite from Valdagno, 1084.  
 Luzzato. See also Zambelli.  
 Lwoff, J., fatty acids in resin, 653.

## M.

- Mabery, C. F., products from the Cowles electrical furnace, 551.  
 — substituted acrylic and propionic acids, 570.  
 Macadam, W. I., butyrellite, 17.  
 — talc used in paper-making, 452.  
 Macagno, J., determination of tannin in sumach, 624.  
 McCay, L. W., arsenic pentasulphide, 213.  
 McCulloch, N., estimation of chromate in the presence of dichromate, 304.  
 — volumetric estimation of cobalt in presence of nickel, 1141.  
 MacGowan, G., dihaloid-derivatives of thiocarbamide, TRANS., 378.  
 — sulphinic compounds of carbamide and thiocarbamide, TRANS., 666.  
 McGregor, J. G., density of weak aqueous solutions of salts, 209.  
 MacIvor, R. W. E., bismuthic gold, 707.  
 — minerals occurring in Australian bat guano, 708.  
 — New Zealand graphite, 555.  
 — perbromic acid, 698.  
 Mackenzie, G. S., rare copper minerals from Utah, 19.  
 Mackie, W. See Carnelley.  
 Mackintosh, J. B., improved form of Elliot's gas apparatus, 1137.  
 — separation of nickel and cobalt from iron, 1141.  
 McLoughlin, S. See Colby.  
 MacMunn, C. A., invertebrate chromatology, 613.  
 — myohænatin, 983.  
 Macnair, D. S., apparatus for vapour-density determinations, 765.  
 — separation of acetic and formic acids, 751.  
 Macnair, D. S. See also Bott.  
 Märcker, M., diffusion residues, 521.  
 — value of the phosphoric acid in basic slag, 687.

- Magerstein, v., comparative manurial values of Chili saltpetre and ammonium sulphate, 77.  
 — experiments with Chili saltpetre, 78.  
 Magnanimi, O., chloro-derivatives of acetals, 28.  
 Magnanini, G., transformation of homologues of indole into those of quinoline, 1113.  
 — pipeline, 457.  
 Mairet, A., and Combemale, physiological action of methylal, 391.  
 — — — therapeutic action of colchicine, 614.  
 — — — therapeutic action of methylal, 684.  
 — — — toxic action of colchicine, 515.  
 Malbot, H., preparation of isobutylamines, 356.  
 — preparation of normal propylamines and isoamylamines, 652.  
 — salts of di-isobutylamine, 461.  
 — separation of mono- and di-isobutylamines, 357.  
 Mallet, J. W., silver in Cotopaxi volcanic ash, 454.  
 Malot, estimation of phosphoric acid, 1063.  
 Manasse, O., vanadates of the alkaline earths, 339.  
 Manasse. See also Claisen.  
 Maneuvrier, G., formation of the electric arc without contact of the electrodes, 626.  
 Mankiewicz, detection of phosphorus, 526.  
 Mannley, G., estimation of indigo, 1147.  
 Mansfeld, W., derivatives of diethylene disulphide, 122.  
 Maquenne, inosite and its derivatives, 355, 459, 908.  
 — identity of dambose with inosite, 909.  
 Maquenne. See also Dehérain.  
 Marcacci, A., action of alkaloids in the animal and vegetable kingdoms, 859.  
 Marceret, W., volumetric estimation of carbonic anhydride, 528.  
 Marceuse, W., formation of lactic acid during muscular activity, 508.  
 Mares, excretion of urea and uric acid from the system, 856.  
 Margottet, J. See Hautefeuille.  
 Marino-Zucco, F. See Celli.  
 Markownikoff and J. Spady, constitution of the hydrocarbon  $C_nH_{2n}$  from Caucasian petroleum, 922.  
 Marquardt, A., alkyl compounds of bismuth, 802.  
 Marshall, J., glycosuric acid, 1047.  
 — Hüfner's reaction in bile, 390.  
 — new ureometer, 310.  
 Martin, E. W., detection of artificial colouring matters in butters, &c., 1149.  
 Martin, S. H. C., proteids of the seeds of jequirity, 990.  
 — vegetable globulins, 507.  
 Martinoff, A. See Chroustchoff.  
 Maschke, L.,  $\beta$ -naphthylamine-derivatives, 838.  
 — trimethylnaphthalene, 841.  
 Mason, A. T., condensation-derivatives of ethylenediamine, 493.  
 Matthey, E., metallurgy of bismuth, 900.  
 Matthiessen, C. H., and W. G. Mixter, orthazoparabromacetanilide, 251.  
 Matzudaira, C., dibenzylaniline and its derivatives, 812.  
 Maumené, E., action of nitric acid on sugar, 567.  
 — alloys of platinum, iron, and copper, 778.  
 — "saccharin," 836.  
 — water of crystallisation of alums, 218.  
 Mayer, A., exhalation of oxygen by fleshy-leaved plants in absence of carbonic anhydride, 988.  
 — nature of Nageli's starch-cellulose, 460.  
 Mayer, F., nitro- $\psi$ -cumidinesulphonic acid, 953.  
 — reduction of trinitro- $\psi$ -cumene, 36, 659.  
 Meem, J. G., limonite-pseudomorphs after iron pyrites, 116.  
 Méhu, C., sugar in urine, 1060.  
 — urea estimation, 1001.  
 Meineke, C., analysis of clays, 1139.  
 — determination of manganese, 1139.  
 — determination of phosphorus in steel and iron, 396.  
 — volumetric determination of manganese, 531.  
 Meissler, A., ethyl isobutyl ether, 1088.  
 Meissner, F., heat evolved when powders are moistened, 9.  
 Meldola, R., constitution of diazo-amido-compounds, 818.  
 — preparation of dinitronaphthylamine; metanitrophenylazodimethylamidobenzene, 152.  
 — Wallach's explanation of the isomeric transformation of diazo-amidobenzene into amido-azobenzene, Proc., 27.  
 Meldola, R., and F. W. Streatfeild, diazoamido-compounds, TRANS., 102, 434.

- Meldola, R., and F. W. Streatfeild, notes on anhydro-bases: ethenyltriamidonaphthalene, *TRANS.*, 691.
- Melikoff, P., constitution of chlorohydroxybutyric acid and dichlorobutyric acid, 30.  
— derivatives of tiglic acid, 29.
- Mendeléeff, D., the compounds of ethyl alcohol with water, *TRANS.*, 778.
- Mendenhall, T. C., electrical resistance of soft carbon under pressure, 315.
- Menke, A. E., action of ferric sulphate on iron, 708.
- Menke, A. E. See also Scovell.
- Menozzi, A., and C. Belloni,  $\alpha$ -methylamidovaleric acid, 797.
- Menozzi, A. See also Koerner.
- Menschling, J., and V. Meyer, behaviour of phosphorus, arsenic, and antimony at a white heat, 888.  
— vapour-density of potassium iodide, 550.  
— vapour-density of zinc, 218.
- Mente, A. See Ost.
- Mentha, E., chloroparazotoluene, 248.
- Mentha, E., and K. Heumann, cyanazobenzene and para-azobenzene-carboxlic acid, 248.  
— parachlorazobenzene-derivatives, 247.
- Merck, C. E., ecgonine, 284.
- Merck, E., strophanthus and strophanthin, 1116.
- Merling, G., action of bromine on dimethylpiperidine, 164.
- Mermet, A., lecture experiments, 769.
- Mertens, E., action of amines on phthalylacetic acid, 51.
- Merz, V., and P. Müller, aniline and diphenylamine from phenol, 243.  
— conversion of phenols into amines, 576.
- Merz, V., and C. Ris, action of ethylenediamine on catechol, 722.
- Mettegang, H. See Bernthsen.
- Meunier, S., artificial formation of rose-spinel or Balas ruby, 707.  
— meteoric iron at Fort Duncan, Texas, 647.  
— mineral waters from Java, 224.
- Meusel, E., effects of thiocyanates on vegetation and fermentation, 519.
- Meyer, A. B., nephrite from Alaska, 222.
- Meyer, E. v., preparation of iodo-benzene from phenylhydrazine, 1042.  
— synthesis of cyanphenin, 363.
- Meyer, G., refractive index of ice, 753.
- Meyer, L., action of carbon tetrachloride on oxides, 552.  
— apparatus for fractional distillation under reduced pressure, 884.
- Meyer, L., halogen carriers, 326.
- Meyer, V., isophthalaldehyde, 940.  
— negative nature of the phenyl-group, 572.  
— physiological action of chlorinated ethyl sulphides, 857.  
— preparation of  $\beta$ -iodopropionic acids, 232.  
— properties of some metals, 445.  
— relation of  $\alpha$ -thiophenic acid to the normal thiophencarboxylic acids, 129.  
— stability of corrosive sublimate solution, 774.  
— thiodiglycol compounds, 228.
- Meyer, V., and K. Neure, bye-products of the thiophen manufacture, 805.
- Meyer, V., and A. W. Warrington, action of acetic chloride on amines, *TRANS.*, 683.
- Meyer, V. See also Daccomo, Demuth, Mensching.
- Michael, A., action of ethyl sodacetacetate and sodomalonate on the ethyl salts of unsaturated acids, 672.  
— action of phosphorus pentachloride on acetanilide, 481.  
— behaviour of acetic acid and its derivatives to phosphorus pentachloride, 359.  
— behaviour of ethyl oxalate with resorcinol, 949.  
— condensation of aldehydes with phenols, 825.  
— constitution of trimethylenetricarboxylic acid, 468.  
— convenient method of preparing brominated fatty acids, 358.  
— formation of indigo-blue from orthonitrophenylpropioic acid, 672.  
— reactions with ethyl sodacetooacetate and ethyl sodomalonate, 716.  
— reduction of the isomeric bromocinnamic acids, 668.
- Michael, A., and G. M. Browne, aromatic hydroxylamines, 663.  
— isomerism in the cinnamic acid series, 582.  
— — isomerism in the crotonic acid series, 656, 1029.
- Michael, A., and J. P. Ryder, action of aldehydes on phenols, 723.
- Michaelis, A., organo-bismuth compounds, 368.  
— tellurium dichloride, 1078.  
— valency of bismuth, 340.  
— vapour-density of tellurium tetrachloride: valency of tellurium, 770.
- Michaelis, A., and A. Polis, triphenylbismuthine and its derivatives, 368.

- Michaelis, A., and F. Schmidt, isomeric mono- and di-benzoylphenylhydrazines, 365.  
 —— unsymmetrical benzoylphe-  
 nylhydrazine, 820.  
 Michaelis, A., and L. Weitz, trianisylarsine and its derivatives, 367.  
 Miers, H. A. See Kinch.  
 Miesler, J., electromotive dilution constants of silver and copper salts, 1072.  
 Miles, F. P., formation of potassium silicide, 450.  
 —— supposed meteorite from Highland Co., Virginia, 455.  
 Miles, M., nitrifying microbes, 1134.  
 Miller, A. K., compound of amylene with nitric oxide, Proc., 108.  
 —— recent papers by A. v. Baeyer and J. Thomsen on the constitution of benzene, TRANS., 208.  
 Miller, A. K., and T. Baker, composition of shale spirit, PROC., 97.  
 Miller, A. R., preserving standard tartar-emetic solutions, 403.  
 Miller, N., ferment organisms of the alimentary canal, 288.  
 Miller, N. H. J. See Japp.  
 Miller, W. v., action of aniline on mixtures of fatty aldehydes, 974.  
 —— condensation of quinaldine with aldehydes, 975.  
 —— nitrosalicylaldehydes, 938.  
 Miller, W. v., and F. Kinkel, action of aniline on a mixture of prop-aldehyde and acetal, 975.  
 —— condensation of isobutaldehyde and methylal with aniline, 957.  
 ——  $\alpha$ -metanitrophenylparamethoxyquinoline and its derivatives, 978.  
 —— nitrocoumaraldehydes, 939.  
 Mills, E. J., action of heat on potassium chlorate and perchlorate, 767.  
 Mills, T. W., urine of the tortoise, 170.  
 Miuria, M., melanin, 855.  
 Mixter, W. G., acid propionates and butyrates, 231:  
 Mixer, W. G. See also Dyer, Mattheson, Osborn.  
 Möhlau, R., and C. Hoffmann, alkyl hypochlorites from isonitroso-compounds, 795.  
 Möller, G., Eggerzt's method of estimating sulphur in iron, 296.  
 Mörner, K. A. H., pigments of melanotic sarcomata, 168.  
 Mohr, C., estimation of phosphoric acid, 864.  
 Moinè, F., action of bibasic acids on thiocarbimide, 489.  
 Moissan, H., phosphorus pentafluoride, 212.  
 Molisch, H., new test for coniferin, 692.  
 —— relations between inorganic salts containing nitrogen, and plants, 989.  
 Moll, J. W., microchemical detection of tannin, 311.  
 Monari, A., formation of xanthocreatinine in the organism, 613.  
 Mondésir. See De Mondésir.  
 Moore, G. D. See Anschütz.  
 Moore, R. W., carrot colour in butter, 310.  
 Moore, T., direct precipitation of nickel oxide in presence of iron, 1141.  
 —— estimation of nickel in ores, mattes, and slags, 303.  
 —— modified ferric chloride cell, 1071.  
 —— peculiar formation in nickel regu-  
 lus, 1081.  
 Moos, F., condensation products of ethylene-aniline with aldehydes, 577.  
 Morawski, T., and J. Stingl, fat of the soja bean, 687.  
 —— sugars of the soja bean, 686.  
 Morgan, J. J., rapid estimation of silicon, sulphur, and manganese in iron and steel, 1140.  
 Morin, E. C. See Claudon.  
 Morley, F. H., substitution in the benzene nucleus, TRANS., 579.  
 Morse, H. N., and A. F. Linn, deter-  
 mination of nitric acid, 181.  
 Morse, H. N., and C. Pigot, determi-  
 nation of butter in milk, 752.  
 Mühlhäuser, O., manufacture of benzaldehyde-greens, 579.  
 —— manufacture of dimethylaniline, 576.  
 —— manufacture of methyl-violet, 821.  
 —— manufacture of methylene-blue, 480.  
 —— manufacture of resorcinol, 574.  
 Müller, formation of sugar in grapes, 517.  
 Müller, C. O., formation of albuminoïds in plants, 70.  
 Müller, F., aniline poisoning, 514.  
 Müller, F. See also Friedlander.  
 Mueller, H., physiological rôle of vine leaves, 685.  
 Müller, P., primary and secondary xylamines from xylenols, 663.  
 Müller, P. See also Merz.  
 Müller, R. See Bamberger.  
 Müller, W., metamethylcinnamic acid and its derivatives, 724.  
 Müller-Erzbach, W., dependence of chemical affinity on temperature, 628.

- Müller-Erzbach, W., dissociation of copper sulphate, 208.  
 —— dissociation of salts containing water of crystallisation, 207.  
 —— dissociation of sodium phosphate, 436.  
 —— hydrates of barium and strontium hydroxides, 765.  
 —— rate and vapour-tension of dissociation, 696.
- Munchmeyer, F., action of hydroxylamine on diketones, 373.  
 —— action of hydroxylamine and phenylhydrazine on dialdehydes and ketones, 482.
- Muhlert, F., action of acetamide on orthochloroquinoline, 848.
- Muhlert, F. See also Bernthsen.
- Muir, M. M. P., and D. J. Carnegie, contributions from the laboratory of Gonville and Caius College, Cambridge. No. VIII. On bismuthates, *TRANS.*, 77.
- Muller, J. A., influence of temperature and pressure on the action of potassium chloride on crude methylamine carbonate, 771.  
 —— new class of ferrocyanides and ferricyanides, 649.
- Muller, H., action of diastase and invertin, 166.
- Munk, J., formation of fat in the dog from carbohydrates, 288.
- Munro, J. M. H., influence of the ferric oxide in basic cinder on the growth of plants, 178.
- Munro, J. M. H. See also Wrightson.
- Muntz, A., distribution of the nitric ferment and its function in the disintegration of rocks, 1135.  
 —— ripening of seeds, 173.
- Muntz, A., and C. Girard, production of farmyard manure, 175.
- Murtfeld. See Claus.
- Muthmann, W., argentous compounds, 636.  
 —— lower oxides of molybdenum, 553.
- Muthmann, W., and J. U. Nef, cinchonic acid, 598.
- Mylius, E., red coloration of phenol, 807.  
 —— thalleioquinine reaction, 311.
- Mylius, F., cholic acid, 606, 982.  
 —— iodide of starch, 568.  
 —— Pettenkofer's reaction, 1149.
- Nagamatzs, A., functions of chlorophyll, 516.
- Nasini, R., molecular refraction of carbon compounds, 626.
- Nasini, R., and A. Scala, allyl trisulphide, 1088.  
 —— —— molecular refractive energies of derivatives of carbon bisulphide, 753.  
 —— —— molecular refractive energies of thiocyanates and thiocarbimides, 754.
- Natanson, E., cooling of carbonic anhydride on expansion, 880.
- Nautier, A., superphosphate manuring for sugar-beet, 295.
- Nef, J. U., benzoquinonecarboxylic acids, 255.  
 —— nitranilic acid from chloranil, 926.
- Nef, J. U. See also Muthmann, Koenigs.
- Negreano, specific inductive power of liquids, 413.
- Nettlefold, F., absorption of nitric oxide by sulphuric acid, 526.  
 —— nitrocellulose, 792.  
 —— sodium nitrate in gun-cotton, 715.
- Neumann, C. v., nickel and carbon element, 757.
- Neumann, G., determination of metallic iron in slags, 1140.  
 —— nitrophenylbenzoates and nitrobenzoates, 254.  
 —— preparation of oxygen and of sulphurous anhydride with Kipp's apparatus, 769.
- Neumann, G. S., sulphuric acid as an iodine carrier, 573.
- Neumeister, R., albumoses, 285.  
 —— vitellooses, 286.
- Neure, K. See Meyer.
- Nickel, O., quantitative estimation of oxalic acid in urine, 401.
- Nicol, W. W. J., expansion of salt solutions, 760.  
 —— supersaturation of salt solutions, *TRANS.*, 389.  
 —— vapour-pressures of water from salt solutions, 321.
- Niedschlag, W., decomposition of saccharose by boiling with lime, 1026.
- Niementowski, S., anhydro-compounds, 937.
- Niementowski, S., and M. Obrenski, metaformotoluide and its derivatives, 935.
- Nietzki, R., constitution of nitranilic acid, 134.  
 —— constitution of safranine, 250.  
 —— formation of croconic acid from benzene-derivatives, 805.

## N.

Nageli, E. See Schulze.

- Nietzki, R., hexa-derivatives of benzene, 929.  
 — safranine dyes, 249.  
 Nietzki, R., and J. Göttig,  $\beta$ - $\alpha$ -azonaphthalene, 590.  
 Nietzki, R., and A. L. Guitermann, naphtholcarboxylic acids, 732.  
 Nietzki, R., and E. Hagenbach, tetramidobenzene and its derivatives, 476.  
 Nietzki, R., and F. Kehrmann, quinonedioxime and dinitrosobenzene, 575.  
 — — secondary and tertiary quinones, 473.  
 Nietzki, R., and J. Preusser, constitution of dinitroquinol: formation of nitranilic acid, 574.  
 Nietzki, R., and T. Steinmann, purpurogallin, 733.  
 Nilson, L. F., and O. Pettersson, physical constants of germanium and titanium, and their compounds, 778.  
 Nilson, L. F. See also Krüss.  
 Noah, E., tetrahydroxyanthraquinones, 56.  
 Nordenstiöld, A. E., cosmical powder from San Fernando, Chili, 22.  
 — equivalent of gadolinium oxide, 109.  
 — gearsutite from Ivigut, Greenland, 344.  
 Norton, L. M., and W. D. Livermore, action of dilute nitric acid on substituted amido-compounds, 1038.  
 Norton, L. M., and A. A. Noyes, action of heat on ethylene, 226.  
 Norton, L. M., and H. J. Williams, action of bromine on isobutylene, 712.  
 Nourrisson, C., bromorthotoluic and bromophthalic acids, 668.  
 Novy, F. G., homologues of cocaine, 1126.  
 Noyes, A. A. See Norton.  
 Noyes, W. A., and C. Walker, oxidation of benzene-derivatives with potassium ferricyanide, 727.  
 Nuth, G., furfuran-derivatives, 803.
- 0.
- Obremski, M. See Niementowski.  
 Ochsenius, C., phosphoric acid in Chili saltpetre, 558.  
 Oeconomides, L., ketines, 29.  
 Oeconomides, L. See also Heumann.  
 Oettel, F., volumetric method for determining fluorine, 179.  
 Oldbach, H.,  $\beta$ -methyltetramethylene-diamine and  $\beta$ -methylpyrrolidine, 735.
- Olivieri, V. See Canzonieri.  
 Olszewski, K., absorption spectrum of liquid oxygen and of atmospheric air, 625.  
 — boiling point of ozone: solidification of ethylene, 634.  
 — density of liquefied methane, oxygen and nitrogen, 694.  
 Osborne, T. B., higher oxides of copper, 334.  
 Osborne, T. B., and W. G. Mixter, paranitroformanilide, 250.  
 Osmond, heating and cooling of cast steel, 14.  
 — — heating and cooling of melted steel, 219.  
 Osmond, F., colorimetric estimation of phosphorus, 999.  
 — effect of manganese, &c., on the properties of steel, 639.  
 Osmond and Werth, residues obtained from steel and zinc by the action of acids, 894.  
 Ost, H., and A. Mente, oxalimide, 234.  
 Ostwald, W., coefficients of affinity of bases, 324.  
 Ott, A., separation of globulin from albumin in urine, 406.  
 Otto, H., tetracalcium phosphate and basic slag, 445.  
 Otto, R., action of cyanuric chloride and chlorocyanuric diamide on phenols, 1033.  
 — — synthesis of aromatic polysulphides, 923.  
 Otto, R., and E. Engelhardt, phenylsulphinacetic acid, 263.  
 Otto, R., and A. Rössing, action of potassium hydroxide on mixed alkyl bisulphides, 371.  
 — — — action of potassium hydroxide on phenylenemethadiphenylsulphone, 372.  
 — — — aromatic sulphonates containing bivalent alcohol radicles, 953.  
 — — — behaviour of aromatic-sulphinic acids towards hydrogen sulphide, 1047.  
 — — — bisulphides with mixed organic radicles, 242.  
 — — — reaction of organic bisulphides with potassium sulphide, 226.  
 — — — reduction of aromatic thiosulphonates containing alkyl radicles by means of hydrogen sulphide, 954.  
 — — — — sulphobenzidizedisulphonic acid, 263.  
 Otto, R., and K. Voigt, solid  $\alpha$ -dichlorethyl cyanide and its conversion into triethyl cyanuride, 1024.  
 Otto, R. See also Fromme, Gabrie  
 Ouvard, L. See Troost.

## P.

- Paal, C., constitution of pyrotritartaric acid, 657.
- Paal, C., and A. Püschel, 1:3 methyl-phenylthiophen and 1:2 thioxen, 1101.
- Paal, C., and C. W. T. Schneider, synthesis of pyrroline-derivatives, 273.
- Paal, C. See also Dietrich, Kues.
- Padé, L., analysis of coffee, 1002.
- Pagnoul, A., manurial experiments with sugar-beets, 748.
- Palla, E., recent formation of marcasite at Marienbad, 901.
- Palm, R., detection and determination of lactic acid, 307.
- detection of traces of albumin, 407.
- determination of milk constituents, 1003.
- Palmer, C. S. See Remsen.
- Palmquist, A. See Petterson.
- Pampel, O., and G. Schmidt, aromatic ketones, 252.
- Panajotow, G., 1:3 dimethylquinaldine, 381.
- Parmentier, F., a particular case of solution, 547.
- Parmentier, F. See also Chancel.
- Paul, B. H., and A. J. Cowley, amount of caffeine in various kinds of coffee, 394.
- coffee, 1002.
- Pauly, C., detection of potassium by means of sodium bismuth thiosulfate, 1138.
- Pearce, R., goslarite from Montana, 346.
- Pebal, conjectured thermochemical law respecting non-reversible electrolytic actions, 1072.
- Péchard. See Debray.
- Pechmann, H. v., isonitroso-derivatives, 1103.
- Pechmann, H. v., and K. Wehsarg, diisonitrosoacetone, 28.
- Pechmann, H. v. See also Burton, Stokes.
- Pellat, H., absolute electro-dynamometer, 200.
- Pellizzari, G., oxidising action of alloxan, 1100.
- Penfield, S. L., phenacite from Colorado, 452.
- vanadinite from Arizona and New Mexico, 347.
- Penfield, S. L., and D. N. Harper, chemical composition of ralstonite, 345.
- Penfield, S. L., and F. S. Sperry, pseudomorphs of garnet, 117.
- Penfield, S. L. See also Dana.
- Penzoldt. See Fischer.
- Peratoner, A., constitution of di-bromosalicylic acid, 487.
- oxidation of the methyl ethers of mono- and di-bromothiisopropyl-phenols, 472.
- substituted mono- and di-bromo-salicylic acids, 486.
- Perkin, A. G., and W. H. Perkin, jun., kamala, 272.
- Perkin, W. H., sen., magnetic rotation and densities of chloral, chloral hydrate, and hydrated aldehydes, TRANS., 808.
- magnetic rotatory power of the ethyl salts of maleic and citraconic acids and their isomerides, PROC., 98.
- tartaric and racemic acids and the magnetic rotation of their ethereal salts, TRANS., 362.
- Perkin, W. H., jun., action of trimethylene bromide on ethyl acetoacetate, benzoylacetate, and acetone-dicarboxylate, 32.
- dehydracetic acid, TRANS., 484.
- derivatives of hydrindonaphthene and tetrahydronaphthalene, PROC., 92.
- synthetical formation of closed carbon-chains. II (cont.) Action of trimethylene bromide on the sodium compounds of ethylic acetoacetate, benzoylacetate, paranitrobenzoyl-acetate, and acetonedicarboxylate, TRANS., 702.
- synthetical formation of closed carbon-chains. Part III. Some derivatives of pentamethylene, TRANS., 240.
- synthetical formation of closed carbon-chains. Part II. On some derivatives of tetramethylene, TRANS., 1.
- synthetical formation of closed carbon-chains Part I (cont.) Trimethylenedicarboxylic acid, TRANS., 849.
- Perkin, W. H., jun., and P. C. Freer, ethyl acetotrimethylenecarboxylate, 33.
- Perkin, W. H., jun. See also Colman, Freer, and A. G. Perkin.
- Perry, J. See Ayrton.
- Pesci and Betelli, terebenthene-derivatives, 272.
- Peters, K., linoleic acid, 126.
- Peterson, F. See Ladenburg.
- Petterson, O., air analysis on a new principle, 180.
- apparatus for gas analysis, 179.
- Petterson, O., and A. Palmquist, portable apparatus for the estimation

- of carbonic anhydride in the atmosphere, 999.  
 Pettersson, O. See also Nilson.  
 Pfeffer, W., absorption of aniline colours by living cells, 747.  
 Pfeiffer, G., preparation of halogen-derivatives of pyridine bases from the pyridinecarboxylic acids, 844.  
 Pfeiffer, T., natural and artificial digestion, 167.  
 Pfeiffer, T., and F. Lehmann, addition of sugar to cattle-foods, 511.  
 Pflüger, E., and K. Bohland, estimation of urea in human urine with sodium hypobromite, 90.  
 —— Hufner's method of estimating urea, 90.  
 Pfordten, O. v. d., the lowest compounds of silver, 699.  
 —— titanium, 14, 337.  
 Pfülf, A., hydrazinebenzenesulphonic acids, 933.  
 —— indoles, 956.  
 Philip, M. See Bamberger.  
 Philips, B., unsymmetrical secondary hydrazines, 1085.  
 Piccini, mineral associated with the columbite of Val Vigezzo, 1085.  
 Pickering, S. U., decomposition of sodium carbonate by fusion, TRANS., 72.  
 —— determination of the constitution of carbon compounds from thermochemical data, 423.  
 —— heat of hydration of salts, TRANS., 75.  
 —— influence of temperature on the heat of dissolution of salts, TRANS., 290.  
 —— thermal phenomena of neutralisation and their bearing on the nature of solution and the theory of residual affinity, TRANS., 593.  
 Pieszeck, E. See Claus.  
 Piggot, C. See Morse.  
 Pinner, A., action of carbamide on phenylhydrazines, 1042.  
 —— pyrimidines, 1053.  
 Pinner, A., and J. Lifschütz, action of carbamide on the chloral cyanhydrins, 1032.  
 —— —— action of carbamide on cyanhydrins, 1054.  
 Pionchon, specific heats and changes of state at high temperatures, 201.  
 Pisanello, G., hydrogenation of propionitrile, 457.  
 Pisani, F. See Des Cloizeaux.  
 Piutti, A., reciprocal transformation of the optically active asparagines, 802.  
 —— synthesis of ethereal salts of trimelic acid, 491 and 587.  
 Platz, P., estimation of sulphur in iron, 1141.  
 Plöchl, J., phenylglycidic acid, 254.  
 —— synthesis of pyridine bases, 598.  
 Plugge, P. C., composition of papaverine, 852.  
 —— opium alkaloids, 280, 851.  
 —— test for narcine, 870.  
 —— volumetric estimation of acids in salts of the alkaloids, 621.  
 Podwyssozki, W., method of preparing extracts of pepsin, 65.  
 Polikiev, H. See Berlinerblau.  
 Polis, A., aromatic lead compounds, 572.  
 Polis, A. See also Michaelis.  
 Polonowska, N. See Goldschmidt.  
 Pomey, E., compound of orthotoluidine with cupric chloride, 472.  
 —— compound of paratoluidine with cupric chloride, 472.  
 —— compound of propyl alcohol and phosphoplatinous chloride, 458.  
 Posner, C., albumin in normal urine, 390.  
 Preis, K., and B. Rayman, decomposition of sodium thioarsenate by silver nitrate, 444, 889.  
 Preusser, J. See Nietzki.  
 Pribram, R., specific rotation of optically active substances in very dilute solution, 755.  
 Prieto, R. See De Landero.  
 Pringle, A., some probable new elements, 107.  
 Pringsheim, decomposition of carbonic anhydride by chlorophyll, 685.  
 Prior, E., estimation of the acidity of malt, 87.  
 Puchot, E., aldehyde resin, 1090.  
 Puschel. See Paal.  
 Pukall, W., resorcinol-derivatives, 661.  
 Pukall, W. See also Will.  
 Pulvermacher, G., homo-ortho-phthalimide, 1111.  
 Purdie, T., action of metallic alkyl-oxides on mixtures of ethereal salts with alcohols, TRANS., 627.  
 Purgotti, A., tribromophenol, 573.

## Q.

- Quantin, H., action of carbon tetrachloride on chromyl dichloride and ferric phosphate, 330.  
 —— reduction of copper sulphate during alcoholic fermentation, 171.  
 —— Tunisian soils, 860.  
 —— volumetric determination of sulphates, 181.  
 Quincke, F., derivatives of acenaphthene, 592.

**Quinquaud.** See Gréhant.

## R.

- Racine**, S., derivatives of orthotoluic acid, 945.  
 —— phthalaldehydic acid, 951.  
**Radiguet.** See Tommassi.  
**Rammelsberg**, C., crystalline silico-carbonate from soda liquors, 12.  
 —— occasional products in the soda manufacture, 331.  
**Ramsay**, W., and S. Young, continuous transition from the liquid to the gaseous state at all temperatures, 763.  
 —— —— influence of change of condition from the liquid to the solid state on vapour-pressure, 430.  
 —— —— nature of liquids, 100.  
 —— —— nature of liquids as shown by a study of the thermal properties of stable and dissociable substances, 430.  
 —— —— thermal properties of ether, 320.  
 —— —— thermal properties of a mixture of ethyl alcohol and ethyl oxide, *TRANS.*, 755.  
**Ramsay**, W. See also Reynolds.  
**Ransom** F., estimation of ipecacuanha, 1147.  
**Ransom**, W. B., diabetes and glycerol, 985.  
**Ranvier**, L., per-ruthenic acid in histology, 1060.  
**Raoult**, E., vapour-tensions of ethereal solutions, 207.  
**Raoult**, F. M., influence of concentration on the vapour-tension of ethereal solutions, 631.  
**Raschen**, J., indoles from tolylhydrazine, 956.  
**Raschig**, F., compounds of gold and nitrogen, 112.  
 —— reaction of nitrous acid with sulphurous acid, 549, 635.  
**Rath**, G. v., cristobalite from Mexico, 559.  
**Rathgen**, F. See Zincke.  
**Rathke**, B., melamines, 650.  
 —— thiammeline, 650.  
 —— triphenylthiammeline and a third triphenylthiammeline, 662.  
**Raulin**, estimation of nitrogen in organic substances, 862.  
**Raupenstrauck**, G. A., condensation of normal butaldehyde, 794.  
**Rayman**, B., action of arsenious sulphide on acid chlorides, 950.  
 —— cholesterol, 926.

- Rayman**, B., isodulcitol, 906.  
**Rayman**, B. See Preis.  
**Rebuffat**, O., phenylamidoacetic acid derivatives, 1108.  
**Recoura.** See Berthelot.  
**Reed**, J. H., methylnaphthaquinolines and  $\beta$ -naphthacridine, 681.  
**Reformatsky**, A. See Dieff.  
**Reformatsky**, S., synthesis of diatomic monobasic acids, 717.  
**Regel**, C., oxidation of  $\alpha$ - and  $\beta$ -hydroxypiperic acids, 488.  
**Rego.** See De Rego.  
**Reher**, L.,  $\alpha$ - and  $\gamma$ -ethylquinolines, 279.  
**Reicher**, L. T., velocity of saponification, 767.  
**Reidemeister**, C., sodium calcium carbonate, 12.  
**Reimarus**, C., action of alkyl iodides on dibenzylthiocarbamide, 43.  
**Reimer**, C. L., and W. Will, constituents of rape-seed oil, 1030.  
 —— erucic and brassic acids, 233.  
**Reinitzer**, F., hydrocarrotene and carotene, 265.  
**Remsen**, I., and W. S. Bayley, para-bromobenzoic sulphinide, 145.  
**Remsen**, I., and W. H. Emerson, oxidation by means of potassium permanganate, 146.  
**Remsen**, I., and H. W. Hillyer, methods for determining the relative stability of alkyl bromides, 122.  
**Remsen**, I., and A. G. Palmer, benzoic sulphinide, 144.  
 —— decomposition of diazo-compounds by alcohol; paradiazotoluene-orthosulphonic acid, 136.  
 —— parethoxybenzoic sulphinide, 144.  
**Remsen**, I., and C. S. Palmer, benzoyltoluenesulphonamide, 145.  
**Renard**, A., action of heat on heptine, 565.  
 —— estimation of indigo in textile fabrics, 871.  
 —— metallic propionates, 654.  
**Rennie**, E. H., colouring matter of *Drosera Whittakeri*, *TRANS.*, 371.  
 —— phlorizin, *TRANS.*, 634.  
**Reychler**, A., estimation of pressure in closed tubes, 1014.  
 —— preparation of phenylhydrazine, 1042.  
**Reynolds**, E. J., composition of Prussian blue and Turnbull's blue, *TRANS.*, 644.  
**Reynolds**, J. E., action of silicon tetrabromide on thiocarbamide, *TRANS.*, 202.  
 —— new chlorobromide of silicon, *TRANS.*, 590.

- Reynolds and W. Ramsay, equivalent of zinc, TRANS., 854.
- Rhode, G., action of aniline on a mixture of acetaldehyde and propaldehyde, 974.
- Ricciardi, L., composition of rocks and minerals from Vulture-Melfi, 1087.
- composition of volcanic rocks, 1023.
- origin of hydrogen chloride, sulphurous anhydride, and iodine in the gases of volcanoes, 643.
- Richardson, A., action of heat on nitrogen peroxide, TRANS., 397.
- action of light on the hydrides of the halogens in presence of oxygen, TRANS., 801.
- Richardson, B. W., action of oxygen on animals, 855.
- Richardson, C., American barley, 616.
- variations in the chemical composition and physical properties of American oats, 293.
- Richef, C. See Hanriot.
- Richter, E.,  $\alpha$ - and  $\beta$ -naphthylamidoxime, 374.
- Ridsdale, C. H. See Stead.
- Riehm, P., condensation products of acetone and acetophenone with aniline and ammonia, 599.
- Righi, A., conductivity of bismuth for heat in a magnetic field, 1009.
- Rimpau and others, basic slag and other phosphates as manure for moorlands, 294.
- Ris, C. See Merz.
- Rischbieth, P., preparation of levulinic acid, 799.
- Rivière, C. See Chappuis.
- Roberts, W., manurial experiments with various phosphates, 1137.
- Rockwood, E. W. See Atwater.
- Rodatz, P. See Stohmann.
- Roder, A., indoles from metahydroxybenzoic acid, 150.
- Röhm and Haas, F., importance of ammonia for the formation of glycogen, 68.
- Römer, M., nitration of  $\alpha$ -thiophenic acid, 362.
- Römer, M. See also Liebermann.
- Röse, B., analysis of fats, 621.
- Rössing, A. See Otto.
- Rolfe, G. W. See Jackson.
- Romanis, R., certain products from teak, TRANS., 868.
- gold from Burmah, 221.
- Rombough, P. v., decomposition of the nitrates of amines by heat, 230.
- dextrorotatory hexylic alcohol, 228.
- isodinitrodimethylaniline, 245.
- Rombough, P. v., methylisopropyl-acetic acid, 232.
- water from the wells of Zemzem, 455.
- Rommier, A., wine and brandy from raspberries and strawberries, 292.
- Roozeboom, H. W. B., combination of ammonium bromide with ammonia, 631.
- conditions of equilibrium of two substances in the solid, liquid, and gaseous states, 629.
- new hydrate of hydrobromic acid,  $HBr \cdot H_2O$ , 631.
- the hydrate  $HBr \cdot 2H_2O$ , 630.
- thermal study of hydrobromic acid solutions and hydrate, 628.
- Rosen, H. v. See Dragendorff.
- Rosenberg, J. See Lunge.
- Rosenbladt, T., determination of boric acid, 299.
- double nitrates of caesium and rubidium, 12.
- separation of mercury from palladium, 302.
- solubility of some gold compounds, 16.
- Rosenfeld, M., lecture experiment: electrolysis of hydrochloric acid, 633.
- Rosenheik, J. See Erlenmeyer.
- Roser, W., preparation of paradinitrodibenzyl, 836.
- synthesis of indonaphthene-derivatives, 729, 836.
- Roser, W., and E. Haseloff, isomerism in the cinnamic acid series, 830.
- Roth, C. F. See Ladenburg.
- Rousseau, G., formation of manganites from permanganates, 552.
- potassium manganites, 892.
- Rowland, H. A., water battery, 412.
- Roy, P. C., conjugated sulphates and isomorphous mixtures of the copper-magnesium group, PROC., 53.
- Royer. See Le Royer.
- Rücker, A. W. See Thorpe.
- Rüdorff, F., compound of arsenious oxide with halogen salts, 107.
- Rügheimer, L., practical thermoregulator, 698.
- Rügheimer, L., and C. G. Schramm, quinoline-derivatives, 738.
- Ruffi, H., normal propylthiophen-derivatives: glyoxylic acids of the thiophen series, 804.
- Ruhemann, S., formation of pyridine-derivatives from citric acid: constitution of pyridine, TRANS., 403.
- Ruhemann, S., and S. Skinner, anacardic acid, TRANS., 663.
- Ryder, J. P. See Michael.

## S.

- Sabatier, P., hydrochloride of ferric chloride, 894.  
 Sachs, J. v., chlorosis in plants, 76.  
 Saglier, A., ammonium copper iodides, 772.  
 Saint Gilles. See De Saint Gilles.  
 Salfeld. See Fittbogen.  
 Salkowski, E., isethionic acid in the body, and thiosulphuric acid in the urine, 68.  
 Salomon, G., xanthine-derivatives in urine, 739.  
 Salomon, O.,  $\psi$ -meconine, 585.  
 Salomonowitsch, S. See Dragendorff.  
 Salzer, T., detection of thiosulphate in sodium hydrogen carbonate, 79.  
 — volumetric estimation of iodine, 862.  
 Salzer, T. See also Brenstein.  
 Salzmann, S., anilic acids, 926.  
 Samuelson, estimation of glycerol in wine, 86.  
 — detection of artificial colouring in red wine, 187.  
 Sanborn, J. W., animal nutrition, 856.  
 Sandberger, F., graphite from Ceylon, 901.  
 — investigations on ore-veins, 224.  
 — occurrence of iodine in phosphorites and of lithium in psilomelane, 222.  
 — percylite, caracolite, and phosgenite from Chili, 902.  
 Sandmeyer, T., action of ethyl imido-carbonate on aromatic ortho-compounds, 135.  
 — action of nitrous acid on acetone, 568.  
 — substitution of the amido- by the nitro-group in aromatic compounds, 720.  
 Sauer, A., amorphous carbon (graphitoid) in the Saxon Erzgebirge, 341.  
 Saul, J. E., test for tannic acid, 406.  
 Saytzeff, A. See Barataeff, Usatinoff.  
 Saytzeff, A. C. and M., hydroxy-stearic acids of different series, 30.  
 Scacchi, E., altered cordierite from Tuscany, 1086.  
 — minerals from Vesuvius, 17.  
 Scala, A., propylxanthic acid, 800.  
 Scala, A. See also Nasini.  
 Schäfer, L., estimation of cinchonidine in quinine sulphate, 623.  
 Schär, E., cubebin, 970.  
 Schärtler, L., diastase, 1117.  
 Schall, C., demonstration of Avogadro's hypothesis, 698.

- Schall, C., determination of vapour-densities, 695.  
 — determination of the vapour-density of high boiling substances under reduced pressure, 882.  
 — lecture experiment: specific heat of zinc, 634.  
 — vapour-density apparatus, 882.  
 Schatzky, E., dialyloxalic acid, 361.  
 — preparation of ethyl acetate, 360.  
 Scheibler, A., determination of water in the hydrates of strontium oxide, 217.  
 — separation and estimation of meli-rose in cane-sugar, 306.  
 Schertel, A. See Stelzner.  
 Schestopal, C., tetramethylidiquinolylene from benzidine, 1120.  
 Schestopal, C. See also Engler.  
 Schiff, H., furfuraldehyde, 571.  
 Schiff, R., demonstration of the coefficient of expansion as a lecture experiment, 1013.  
 — heat of evaporation of homologous carbon compounds, 9.  
 — specific heats of homologous series of liquid organic compounds, 6.  
 Schilbach, C., berberine salts, 604.  
 Schilbach, C. See also Schmidt.  
 Schlarb. See Claus.  
 Schlaugk, M. See Dürkopf.  
 Schleich. See Lellmann.  
 Schlickum, O., estimation of mor- phine, 622.  
 — testing quinine sulphate, 623.  
 Schlieper, A., indoles from the naph- thylhydrazines, 153, 963.  
 Schluttig, E., imperfectly known silicates, 784.  
 Schmidt, E., and C. Schilbach, ac- tion of potassium permanganate on berberine, 604.  
 Schmidt, F. See Michaelis.  
 Schmidt, G. See Gattermann and Pampel.  
 Schmidt, M. v., and F. Erban, sepa- ration of resins, 496.  
 Schmidt, O. See Claus.  
 Schmidt, R. E., composition of lac- dye, 734.  
 Schmidt, T., comparative sweetness of cane- and starch-sugar, 1026.  
 Schmieder. See Kaiser.  
 Schmitt, R., and F. Engelmann, orthohydroxyquinolinecarboxylic acid, 738.  
 Schnapauff, E., cumidic acids, 52.  
 Schneider, C. W. T. See Paal.  
 Schneider, E. A., action of sulphuric acid on hydrazinetoluene sulphonate acids, 146.  
 — compound of manganese sesqui- oxide with copper oxide, 1081.

- Schneider, E. A., separation of the two isomeric toluidinesulphonic acids, 146.
- Schneider, L., determination of phosphorous in iron and steel, 527.
- Schneider, R., behaviour of iodine to realgar and arsenic iodosulphide, 213.
- Schnell, A., metanitromethylsalicyl-aldehyde and its derivatives, 140.
- Schniter, K., isomeric chloro- and bromo-thymoquinones, 720.
- preparation of quinones. Halogen-derivatives of toluquinone, 1036.
- Schniter, K. See also Hantzsch.
- Schoch, R. See Lunge.
- Schöffel, R., and E. Donath, volumetric determination of manganese, 399.
- Schoeller, R., river waters of La Plata, 786.
- Schoop, P., preparation of dimethyl-aniline, 474.
- Schoop, P. See also Loebisch.
- Schotten, C., bile acids, 606.
- Schottlander, P., crystalline form of potassium aurobromide, 1079.
- Schramm, C. G. See Rügheimer.
- Schramm, J., influence of light on the action of halogens on aromatic compounds, 807.
- Schrauf, A., molecule of crystalline benzene, 922.
- Schrodt, M., presence of nitrites and nitrates in milk as proof of adulteration, 87.
- Schubert, S. See Hönig.
- Schürman. See Seubert.
- Schulte im Hof, J. A. See Claus.
- Schultess, W. See Goldschmidt.
- Schultz, G. See Bender.
- Schulze, B., determination of fatty acids in soap, 307.
- silage of maize, 521.
- silage of vegetable matter, 521.
- Schulze, C. R., amount of water of crystallisation contained in some salts, 766.
- Schulze, E., are nitrates formed in the organisms of higher plants? 859.
- presence of choline in germinating plants, 747.
- Schulze, E., and E. Nageli, phenyl-amidopropionic acid obtained from the decomposition of proteids, 369.
- Schulze, E., and E. Steiger, para-galactin, 460.
- Schulze, K. E., constituents of coal-tar, 471.
- Schumann, M., compressibility of aqueous chloride solutions, 696.
- Schunck, E., chlorophyll, 972.
- Schwalb, F., non-acid constituents of beeswax, 124.
- Schweitzer, H. See Bernthsen.
- Scovell, M. A., and A. E. Menke, composition of potatoes, 747.
- Seegen, J., power of the liver to form sugar from fat, 67.
- sugar in the blood with reference to nutrition, 66.
- Seelig, E., chlorination of toluene, 362.
- Seidler, P. See Liebermann.
- Selden, C. C. See Anschütz.
- Seliwanoff, T., reaction for fruit sugar, 459.
- Sell, W. J., volumetric determination of chromium, 303.
- Semmler, F. W., ethereal oil of *Allium ursinum*, 1089.
- Semper, A. See Bernthsen.
- Senderens, J. B., action of metals on dilute solutions of silver nitrate, 550.
- action of non-metals on solutions of silver and copper nitrates, 331.
- action of sulphur on ammonia and metallic bases in presence of water, 327.
- Senf, A., cyananiline, cyanphenyl-hydrazine, &c., 928.
- Seubert, K., chlorostannic acid, 554.
- manganese benzonte, 582.
- Seubert, and Schürmann, bromostannic acid, 554.
- Seyberlich, A., and H. Trampe-dach, saccharification of starch by nitric acid, 792.
- Seyfferth, E., derivatives of picolinic and nicotinic acids, 157.
- Shand, A., electrolysis of copper and zinc, 1000.
- Shapiroff, B. M., physiological action of tertiary alcohols, 857.
- Shaw, W. N., atomic weights of silver and copper, 444.
- Shenstone, W. A., safety taps, PROC., 108.
- Shenstone, W. A., and J. T. Cundall, ozone from pure oxygen: its production and its action on mercury, with a note on the silent discharge of electricity, TRANS., 610.
- volumetric relations of ozone and oxygen, TRANS., 625.
- Shimer, P. W., titanium carbide in pig iron, 703.
- Short, F. G., analysis of milk, 751.
- Short, F. G. See also Armsby.
- Sidersky, apparatus for determining carbonic anhydride in carbonates, 999.
- Sieber, H. See Bischoff.
- Sieber, N., and A. Smirnow, beha-

- viour of the three isomeric nitrobenzaldehydes in the animal organism, 684.
- Sievert, M., manuring rye with basic slag, &c., 294.
- Silber, P. See Ciamician.
- Simmons, W., enargite from Montana, 707.
- Sjögren, A., place of spodiosite in the mineral system, 346.
- sarkinite, a new manganese arsenate, 346.
- Skalweit, estimation of glycerol in wine and beer, 306.
- Skalweit, J., butter testing, 308.
- Skinner, S., phosphonium chloride, 882.
- Skinner, S. See also Ruhemann.
- Skraup, Z. H., constitution of cinchonine, 164.
- Skraup, Z. H., and P. Brunner, metaquinolinecarboxylic acid, 160.
- Sleenbuch, C., constant gas generator, 634.
- Smirnow, A. See Sieber.
- Smith, W., and W. B. Hart, sodium carbonate, 330.
- Smith, W. B., crystal beds of Topaz Butte, 452.
- Smolka, A., action of bromine on carbamide, 656.
- action of potassium permanganate on dextrose in neutral solution, 566.
- Sohnke, J., behaviour of micro-organisms in artificial mineral water, 393.
- Solederer, H. See Krüss.
- Soltsien, P., essential oils, 375.
- Sonnenschein, A., estimation of acetic acid in acetates by direct titration, 869.
- Spady, J. See Markownikoff.
- Sperry, F. S. See Penfield.
- Spezia, G., flexibility of itacolumite, 21.
- Spica, G. See Canzoneri.
- Spica, M., derivatives of isopropyl-formamide, 1028.
- naphthoxyacetic acids, 495.
- Spica, M., and G. de Varda, derivatives of isopropyl chlorocarbonate, 1028.
- Spiegel, L., determination of nitrates in well waters, 691.
- Spring, W., influence of temperature on the rate of action of certain acids on marble, 882.
- the periodic law, 211.
- reaction between barium carbonate and sodium sulphate under the influence of pressure, 332.
- Spring, W., and E. van Aubel, action of acids on zinc containing lead, 1074.
- Spüller, J. See Kalmann.
- Šrpek, J. O., action of furfuraldehyde on quinaldine, 976.
- Staats, G., photochemical properties of silver chloride, 1071.
- Stadelmann, E., hydroxybutyric acid in diabetic urine, 464.
- Stahl, W., analysis of copper, 529.
- celestine in *Nautilus aratus*, 781.
- Stanley, A., sodium dichromate, 110.
- Stead, J. E., and C. H. Ridsdale, crystals in basic converter slag, *TRANS.*, 601.
- Steche, A. See Fischer.
- Stefan, J., relation between the theories of capillarity and of evaporation, 323.
- Steger, V., prophyry from Horka in Prussia, 223.
- Steiger, E. See Schulze.
- Steiner, A. See Billeter.
- Steinmann, T. See Nietzki.
- Stelzner, A., and A. Schertel, black zinc blende of Freiberg, 451.
- Stenger, F., absorption-bands of chlorophyll, 693.
- Stephan, R., amido-acids, 142.
- Stern, H., origin of the bile colouring matters, 290.
- Stiebel, A. See Claus.
- Stilwell, C. M., opium analysis, 403.
- Stingl, J. See Morawski.
- Stockmann, R., amorphous cocaine, 980.
- Stoehr, C., skatole from strychnine, 682.
- strychnine, 604.
- Stössner, E., effects of deep or shallow sowing on cereals, 747.
- Stohmann, F., heats of combustion of organic compounds, 878.
- heats of combustion of organic compounds as determined by different methods, 1011.
- Thomsen's investigations, 425.
- Stohmann, F., P. Rodatz, and W. Herzberg, heat equivalents of benzoyl compounds, 878.
- — — heat equivalents of ethers of the phenol series, 428.
- — — heat equivalents of the homologues of benzene, 427.
- — — heat of combustion and formation of homologous phenols, 98.
- Stokes, H. N., and H. v. Pechmann, action of ammonia on ethyl acetone-dicarboxylate: synthesis of pyridinederivatives, 155.
- Stolba, F., action of hydrochloric acid on sphalerite, 442.
- determination of calcium and magnesium in presence of manganese, 865.

- Stolte, H., phenyl seleniocarbimide and diphenyl seleniocarbamide, 43.
- Storch, A. See Gintl.
- Stracciati, E. See Bartoli.
- Straus, J. See Goldschmidt.
- Streatfeild, F. W. See Meldola.
- Steinze, F., galvanic polarisation of aluminium, 415.
- Strick, G. H., estimation of silicon in iron, 527.
- Strohecker, J. R., ceriferous Hainstadt clays, 119.
- Stromeyer, W., sugar compounds, 791.
- Stroumbo, production of white light by mixing the colours of the spectrum, 1.
- Strüver, G., volcanic fragments from the Lake of Bracciano, 21.
- Studer. See Liebmann.
- Stutzer, A., analysis of nitrogenous metabolites in faeces, 613.
- artificial digestion, 388.
- Chili saltpetre as manure, 77.
- relation of proteids to digestive ferments, 1129.
- Stylos, M. See Claisen.
- Sulkowski, J., oximes of paraxyloquinone, 667.
- quinone oximes, 41.
- Sundell, A. F., spectrum analysis, 1066.
- T.**
- Taege, C., nitrosalicaldehyde and nitrocoumarin, 939.
- Tafel, J.,  $\gamma$ -amidovaleric acid, 463.
- furfurylamine, 470.
- reduction of dihydroxytartaric acid diphenylhydrazide, 467.
- Tafel, J. See also Fischer.
- Tanret, C., action of hydrogen on nitro-derivatives of terebenthene, 675.
- nitrogen-derivatives of terebenthene, 595.
- Tappeiner, H., fermentation of cellulose, 1131.
- Tassinari, G., action of sulphur dichloride on phenol, 807.
- Teall, J. J. H., andesine from Sutherlandshire, 1022.
- augite from the Whin Sill, 1022.
- plagioclase from the Tynemouth dyke, 784.
- Teed, F. L., potassium chlorate and perchlorate, TRANS., 283.
- Thiel, H., experiments with ensilage in Holland, 1062.
- Thierfelder, H., glycuronic acid, 235, 717.
- Thilo, E., estimation of phosphoric acid from the weight of the molybdate precipitate, 526.
- estimation of small quantities of silver in burnt pyrites, 79.
- Thomas, H., estimation of hydrogen peroxide, 862.
- Thompson, C. See Wright.
- Thompson, F. A., alkaloids of gelseminum root, 981.
- Thoms, H., ammonio-zinc chlorides, 551.
- Thomsen, J., avidity-formula, 633.
- constitution of benzene, 362.
- heats of combustion of organic substances, 761.
- supposed influence of multiple bonds of union on the molecular refraction of the hydrocarbons, 198.
- Thomsen, T., conditions of equilibrium in aqueous solutions: action of aqueous soda on some normal sodium salts, 440.
- Thomson, A. See Carnelley.
- Thomson, J. J., dissociation of some gases by the electric discharge, 1013.
- Thomson, J. J., and R. Threlfall, passage of electric discharges through pure nitrogen, 328.
- — — production of ozone, 327.
- Thomson, R. T., determination of aluminium in presence of much iron, 182.
- estimation of alumina and iron oxide in manures, 302.
- Thomson, W., Adams' method for milk analysis, 186.
- Thorpe, T. E., and T. H. Greenall, on morindin and morindon, TRANS., 52.
- Thorpe, T. E., and A. P. Laurie, atomic weight of gold, TRANS., 565, 866.
- Thorpe, T. E., and A. W. Rücker, relation between the critical temperatures of substances and their thermal expansion as liquids, 429.
- Thorpe, T. E., and J. W. Young, atomic weight of silicon, TRANS., 576.
- Threlfall, R., specific heats of the vapours of acetic acid and nitrogen tetroxide, 429.
- Threlfall, R. See also Thomson.
- Thümmel, K., behaviour of mercuric chloride with hydrogen ammonium carbonate, 774.
- Tiesenhausen, H. See Drägendorff.
- Tilden, W. A., influence of temperature on the dissolution of salts in water, PROC., 66.

- Tollens, B., behaviour of sugar towards acids and phenol, 534.  
 Tollens, B. See also Block, Hae-dicke.  
 Tomlinson, C., cohesion and submersion figures, 209.  
 Tommasi, D., and Radiguet, electric couple with carbon elements, 756.  
 Tony-Garcin, detection of cane-sugar, glucose, and dextrin in wines, 692.  
 Topf, G., iodometric studies, 688, 997.  
 Tortelli, M., synthesis of metaquino-linecarboxylic acid, 503.  
 Trainer, E. See Claus.  
 Trampedach, H. See Seyberlich.  
 Traube, H., laubanite: laumontite, 903.  
 Traube, J., capillary constants and the meniscus angle, 101.  
 —— weight of drops, and their relation to capillarity, 210.  
 Trescot, T. C. See Crampton.  
 Trey, H., influence of some normal salts on the hydrolysis of methyl acetate, 102.  
 Troost, L., and L. Ouvrard, thorium silicates, 1016.  
 —— —— thorium, sodium, and zirconium sodium phosphates, 1017.  
 Troschke, composition of lupines, 518.  
 Trowbridge, J., and C. C. Hutchins, existence of carbon in the sun, 1065.  
 —— —— oxygen in the sun, 1065.  
 Truhlar, J., thioparitoluidine, 472.  
 Tschacher, O., condensation of nitrobenzaldehyde with hydrocarbons, 44.  
 Tschermark, G., sapopolite series, 560.  
 Tschermark, G. See also Ludwig.  
 Tschirch, A., aleurone-grains in the seeds of *Myristica surinamensis*, 1061.  
 —— chlorophyll, 1116.  
 Turner, T., estimation of silica in iron and steel, 1140.  
 —— influence of silicon on the properties of iron and steel. TRANS., 129.  
 Tust, P., tetrachlorobenzoic acid, 1046.

**U.**

- Udránsky, L. v., urinary pigments, 1133.  
 Ulsch, K., Kjeldahl's method for estimating nitrogen, 863.  
 Ulzer, F. See Benedikt.  
 Urban, C., 1, 3 naphthalenediamine, 674.  
 Urech, F., influence of temperature on the rate of inversion of cane-sugar, 768.

- Urech, E., velocity of chemical reactions, 697.  
 Ustinoff, D.,  $\beta$ -dimethacrylic acid, 359.  
 Ustinoff, D., and A. Saytzeff, di-propyl carbinol, 353.

**V.**

- Valentini, A., lecture experiments, 442.  
 —— methyl methyldibromoparacoumarate, 488.  
 Valeur, F. See La Coste.  
 Vallin, K., metatoluenesulphonic acid, 263.  
 Van Aubel, E. See Spring.  
 Van Bemmelen, J. M., recent alluvial deposits in the Ij and Zuyder Zee, 224.  
 Van Dorp, W. A. See Hoogewerf.  
 Van Loo, H. See Fischer.  
 Van Nüys, T. C., estimation of carbonic anhydride in air, 300.  
 Van Nüys, T. C., and B. F. Adams, carbonic anhydride in the air, 549.  
 Varda. See De Varda.  
 Varet, R., and G. Vienne, action of acetylene on benzene in presence of aluminium chloride, 806.  
 Varnholt, L., chlorosalicylic acids, 945.  
 Venator, W., and E. Etienne, analysis of chrome iron ore, 532.  
 Verneuil, A., phosphorescence of calcium sulphide, 539.  
 —— preparation of calcium sulphide with a violet phosphorescence, 2.  
 Verneuil. See also Fremy.  
 Vesterberg, A., amyrin, 733.  
 Vienne, G. See Varet.  
 Vieth, P., alcoholic fermentation of milk-sugar, 1090.  
 Vignal, W., action on food-stuffs of micro-organisms from the mouth and from faeces, 1059.  
 Ville, J., action of cyanamide on benzenesulphonic acids, 833.  
 Villiers, A., barium phosphates, 701.  
 —— detection of sulphites in presence of thiosulphates, 749.  
 Villon, new method for the estimation of tannin, 872.  
 Vincent, C., and Delachanal, carbohydrates from acorns, 909.  
 —— —— tannic acid in mountain-ash berries, 950.  
 Vincenzi, L., chemical constituents of bacteria, 393.  
 Violle, J., comparative radiation of

fused platinum and fused silver, 1010.  
 Völker, O., determination of hippuric acid in urine, 535 and 1001.  
 Vogdt, C. v., diabase-porphyrite from Petrosawodsk, 454.  
 Vogel, A., influence of ozone on germination, 516.  
 Voigt, K. See Otto.  
 Voiry, R. See Bouchardat.  
 Volpert, F., gluconic acids, 127.  
 Vorwerk, P., determination of phosphorus in iron and steel, 299.  
 Vrij. See De Vrij.  
 Vulpius, G., estimation of quinine sulphate, 404.  
 — morphine reaction, 870.

## W.

Waage, R., composition of some leguminous seeds, 991.  
 Wachsmuth, O., estimation of tin and lead in alloys, 304.  
 Waddell, J., atomic weight of tungsten, 111.  
 Wagner, H., oxidation of santonin, 733.  
 Wagner, P., manorial value of basic slag, 525.  
 Wagner, P. See also Fischer.  
 Wakeman, A. J., and H. L. Wells, basic lead nitrates, 1080.  
 Walder, F., benzyl-derivatives of hydroxylamine, 246, 813.  
 Walker, C. See Noyes.  
 Wallace, S. See Cornwall.  
 Wallach, O., azo- and diazo-compounds, 40.  
 — carbohydrates, 26.  
 — diazo- and diazoamido-compounds, 137.  
 — preparation of organic fluorides, 130.  
 — terpenes and ethereal oils, 595, 965.  
 Wallach, O., and F. Lehmann, action of phosphorus pentachloride on substituted formamides and on piperidine-derivatives, 384.  
 Walter, J., apparatus for chemical laboratories, 105.  
 Wanklyn, J. A., occurrence of free iodine in a mineral water, 221.  
 — specific gravity of lime water, 700.  
 Warden, C. J. H., cobra poison, 170.  
 Warington, R., distribution of the nitrifying organism in the soil, TRANS., 118.  
 — nature of the nitrogenous organic matter of soils, 523.

Warington, R., study of well waters, TRANS., 500.  
 Warren, H. N., action of nitrogen on certain metals, 702.  
 — decomposition of ammonium chloride by an alloy of zinc and iron, 443.  
 — ferric chloride as an exciting agent for voltaic batteries, 413.  
 — nitrogen fluoride, 770.  
 — phosphorised silver, 1079.  
 — preparation of anhydrous metallic chlorides, 702.  
 — thallium in platinum, 702.  
 — use of electro-dissolution in analysis, 531.  
 — volatile hydrocarbons in commercial alcohols, 1088.  
 — "zinc-eisen," 550.  
 Warren, T. T. P. B., detection of adulteration in metallic nickel and other metals by the magnet, 531.  
 — metallic manganese, 1081.  
 — vapour-density apparatus, 695.  
 Warrington, A. W. See Meyer.  
 Wartha, V., minerals of the serpentine-chlorite-group, 783.  
 Watts, F., fermentation of citric acid, 235.  
 — titration of citric acid, 307.  
 Weber, C. L., conductivity of amalgams, 757.  
 Weber, E., ethereal oils, 596.  
 Weber, J., pyridinepolycarboxylic acids, 1117.  
 Weber, R., combinations of sulphuric anhydride with phosphoric and iodic anhydrides, 328.  
 — compounds of selenious and arsenious anhydrides with sulphuric anhydride, 212.  
 Weddige, A., derivatives of acetyl-orthamidobenzamide, 1043.  
 Weddige, A., and H. Finger, action of nitrous acid on orthamidobenzamide, 667.  
 Wedding, estimation of phosphorus in iron, 865.  
 Wehsarg, K. See v. Pechmann.  
 Weibull, M., crystallised compounds of zirconium, 778.  
 — galenobismuthite from the Falun mine, 343.  
 — manganese apatite: composition of apatite, 781.  
 Weidel, H., reactions of quinoline, 847.  
 Weidel, H., and J. Wilhelm, oxidation products of 2': 2' diquinoline, 979.  
 Weil, F., estimation of sulphides, 998.  
 — titration of zinc powder, 1000.  
 — valuation of zinc-dust, 301.

- Weil, F., volumetric estimation of sulphides, 618.
- Weilandt, M., free phosphoric acid and superphosphate, 995.
- Weinreich, S., mono- and di-hydroxy-toluic acids, 669.
- Weiske, H., and others, composition of blood, liver, and flesh under varying conditions, 855.
- Weiss, A., fluorescence of the pigments of fungi, 314.
- Weitz, L. See Michaelis.
- Welch, J. C., assay of iron pyrites for available sulphur, 180.
- Weller, A., occurrence of alkaloid-like bases in paraffin oil, 979.
- Weller, A. See also Koerner.
- Weller, J., xylyl phosphorous compounds, 824.
- Wells, H. L., basic zinc and cadmium nitrates, 1080.
- Wells. See also Wakeman.
- Wende, H., cresolcarboxylic acid, 45.
- trimethylanthragallol, 593.
- Wense, W. See Liebermann.
- Wenzing, M., methylindoles, 957.
- Werner, E. A., chrom-organic acids, *TRANS.*, 383.
- Werner. See Claus.
- Werner, E. See Gal.
- Werth. See Osmond.
- Westmoreland, J. W., determination and valuation of copper in ores, &c., 80.
- Weyl, T., chemical studies on the torpedo, 1128.
- Wheeler, H. A., artificial lead silicate from Bonne Terre, Montana, 109.
- Whitfield, J. E., indirect determination of chlorine, bromine, and iodine, 525.
- Widmann, O., constitution of glycouril, 34.
- intramolecular changes in the propyl group of the cumene series, 132.
- reciprocal transformations of cymene and cumene derivatives, 132.
- Wiernik, J. See Heumann.
- Wilhelm, J. See Weidel.
- Will, W., narizing, 497.
- sugars from hesperidin and marin-gin, 715.
- Will, W., and W. Pukall, resorcinol-derivatives, 660.
- Will, W. See also Freund, Reimer.
- Willgerodt, C., acids from acetone-chloroform, 1030.
- action of yellow ammonium sulphide on ketones and quinones, 1045.
- halogen benzene haloïds:  $\alpha$ -trichlorobenzene hexachloride, 806.
- halogen carriers, 130, 326.
- Willgerodt, C., halogen carriers in the natural groups of the elements, 806.
- indium and gallium as halogen carriers, 326.
- Willgerodt, C., and F. Dürr, tertiary trichlorobutyl chloride and ether, 570.
- Williams, H. J. See Norton.
- Williams, J., preparation of aconitine, 1125.
- Williamson, S. See Armstrong.
- Willm, E., sulphuretted waters of Olette, 710.
- Wilsing, H., volumetric estimation of sulphuric acid, 181.
- Wimmer, H. See Fischer.
- Wing, J. F. See Jackson.
- Winkelmann, A., relation of the conductive capacity of gases to temperature, 5.
- Winkler, C., germanium, 1081.
- preparation of chlorine from bleaching powder, 442.
- Wipprecht, W., absorption of ammonia by clay, 1136.
- Wirtz, Q. See Anschütz.
- Wislicenus, J., chloro-derivatives of crotonic acid, 655.
- Wislicenus, W., action of phenylhydrazine on lactones, 489.
- combination of lactones with ethereal salts, 952.
- ethyl oxalacetate, 234.
- synthesis of ethyl salts of ketonic acids, 587.
- Witt, O. N., action of ethyl acetooacetate on aromatic diamines, 247.
- azonium bases, 729.
- constitution of isomeric tolunaphthalazines, 591.
- constitution of the safranines, 250.
- eurhodines, and Laurent's naphthase, 153.
- indoline of azophenine, 821.
- manufacture of  $\alpha$ -naphthylamine, 1048.
- new method of preparing azines, 590.
- qualitative tests for the dyes found in commerce, 91.
- Witt, O. N. See also Brunner, Liebermann.
- Wöhrle, E. See Engler.
- Wohlb., A., thioformaldehyde-derivatives, 27.
- Wohlbrück, O., action of sodium on the ethyl salts of the higher fatty acids, 1099.
- Wohlbrück, O. See also Hantzsch.
- Wolff, L.,  $\beta$ -bromoaleric acid, 464.
- Wolfenstein, R., action of phosphorus pentachloride on  $\alpha$ -hydroxy-naphthoic acid, 963.

- Woll, F. W. A., butter analysis, 309.  
 Wollny, E., decomposition of organic matter in soils, 523.  
 — influence of the physical properties of a soil on the amount of free carbonic anhydride present, 521.  
 Wolpe, hydroxybutyric acid in diabetic urine, 857.  
 Wooldridge, L. C., new constituent of blood-serum, 983.  
 Wright, C. R. A., and C. Thompson, development of voltaic electricity by atmospheric oxidation, 1008.  
 — — new class of voltaic combinations in which oxidisable metals are replaced by alterable solutions, TRANS., 672.  
 Wright, L. T., analysis of gas-coal, 84.  
 Wrightson, J., and J. M. H. Munro, manurial value of basic steel slag, 176.  
 Wróblewski, S. v., isopycnics, 432.  
 Wülfing, A., separation of ortho- and para-toluidine, 576.  
 Wurster, C., action of oxidising agents on albumin, 683.  
 — active oxygen in the atmosphere, 211.  
 — behaviour of hydrogen peroxide to albumin, 607.  
 — behaviour of sodium nitrite towards albumin and haemoglobin, 683.  
 — formation of active oxygen in paper, 211.  
 — Griess' reaction for nitrous acid, 298.  
 — oxidation in the animal body, 610.  
 — quantitative estimation of wood in paper, 620.  
 — reagents for active oxygen, 295.  
 Wynne, W. P. See Armstrong.

**Y.**

- Yoshida, H., aluminium in the ashes of flowering plants, TRANS., 748.  
 Young, J., pectolite from Kilsyth, 645.  
 Young, J. W. See Thorpe.  
 Young, S. See Ramsay.  
 Young, W. C., the logwood test for alum in bread, 1143.

**Z.**

- Zaaijer. See De Zaaijer.  
 Zambelli, L., colorimetric determination of nitrates in water, 533.

- Zambelli and Luzzato, separation of arsenic and antimony, 78.  
 Zeckendorf, A. See Hantzsch.  
 Zehenter, J., bromine-derivatives of resorcinol, 924.  
 Zehnder, L., determination of the sp. gr. of soluble substances, 9.  
 Zeisel, S., colchicine, 284.  
 Zelinsky, N., action of dehydrating agents on benzylideneacetoxime, 666.  
 — ethyl phthalate chloride, 669.  
 — preparation of ethyl  $\alpha$ -bromopropionate, 912.  
 — thiophen group, 921.  
 Zepharovitch, V. v., pyroxene: scheelite, 902.  
 — trona, idrialite, and zinc bloom, 1021.  
 Zglenitzkij, W. K., epsomite from Poland, 1021.  
 Ziegler, J. H., roshydrazine and a new class of dyes, 822.  
 — — tetramethylamidobenzophenone, 674.  
 Ziegler, J. H., and M. Locher, condensation products of secondary hydrazines with dihydroxytartaric acid, 579.  
 — — the tartrazines: a new class of dyes, 578.  
 Zimmermann, J. See Claus, Dennstedt.  
 Zincke, T., action of chlorine on phenols, 960.  
 — conversion of  $\beta$ -naphthaquinone into indonaphthene-derivatives, 728.  
 — derivatives of orthobenzoquinone, 808.  
 — hydrocarbon,  $C_{16}H_{12}$ , from styrolene alcohol, 959.  
 —  $\beta$ -naphthaquinone, 53.  
 Zincke, T., and C. Frölich, halogen-derivatives of phenylenedichloracetyl-ene ketone, 955.  
 Zincke, T., and C. Gerland, action of bromine on diamido- $\alpha$ -naphthol, 838.  
 Zincke, T., and A. T. Lawson, azo-derivatives of phenyl- $\beta$ -naphthylamine, 730.  
 — — orthamidoazo- and hydr- azindo-derivatives, 731.  
 Zincke, T., and F. Rathgen, benzene- and toluene azonaphthols and their isomeric hydrazine-derivatives, 54.  
 Zuber, R., eruptive rocks from Krzeszowice, near Cracow, 563.  
 Zürcher, H. See Hantzsch.